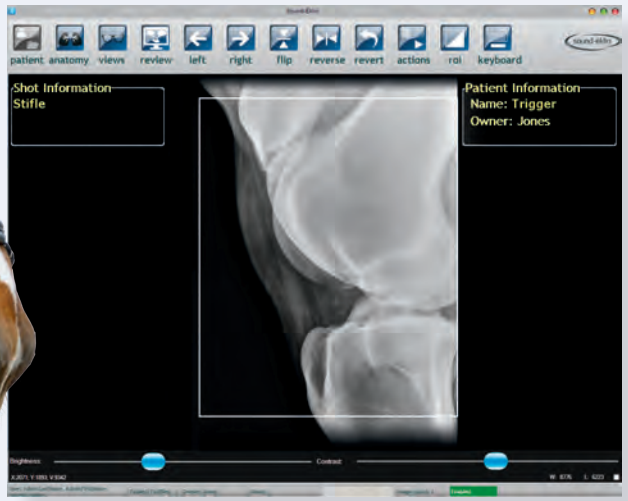
Mark®1210c

User Manual



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Important Safety Information

Note

Read all the instructions before connecting or operating the component
Keep this manual so you can refer to these safety instructions.

Warning

There are no user serviceable parts inside.
Refer all servicing to qualified service personnel.

To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Caution

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.
Clean the DR plate with a damp cloth. Use no chemicals or alcohol.

IPXO per IEC 60529

Type B per IEC 60601-1

You must allow 10 cm or 4 inches of unobstructed clearance around the unit. Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation slots. If the component is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

Keep the component away from flammable materials.

The unit must be connected to a power supply only of the type and voltage specified on the side panel of the unit

Important Safety Information *(continued)*

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable in any way. Do not attempt to defeat grounding and/or polarization provisions. Do not use extension cords.

Do not route the power cord where it will be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where it exits the back of the unit.

The power cord should be unplugged from the wall outlet if the unit is to be left unused for a long period of time. Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:
· The power supply cord or plug has been damaged.
· Objects have fallen or liquid has been spilled into the unit.
· The unit has been exposed to rain.
· The unit shows signs of improper operation
· The unit has been dropped or damaged in any way

Place the unit on a fixed, level surface strong enough to support its weight. Do not place it on a moveable cart that could tip over.

System will become unresponsive when exposed to Electrostatic Discharge (ESD) or Electrical Fast Transient (EFT) conditions. This is the normal response to these environmental conditions. Please restart the system to return to normal operation

USB ports are for keyboard and mouse only. User is responsible for evaluating the system with any devices connected to this port for compliance to IEC 60601-1-1.

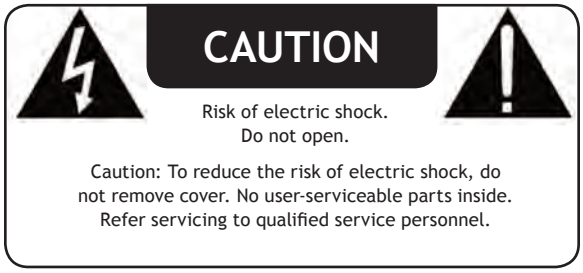
Ethernet port is not to be used during acquisition. User is responsible for evaluating the system with any devices connected to this port for compliance to IEC60601-1-1.

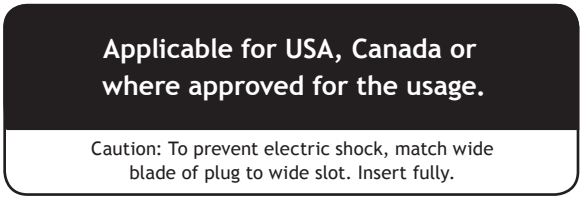
Specifications

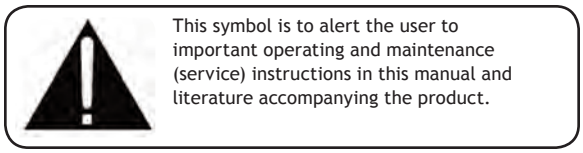
Operation Environment: +15°C to 35°C,
30% to 75% RH, 70 to 106kPa (pressure)

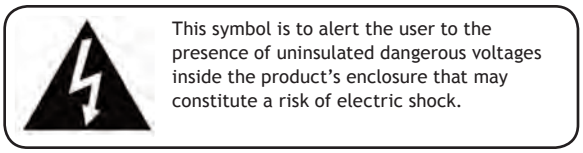
Storage / Transport : -10° C to 55° C, 15% to 80% RH,
70 to 106kPa (pressure)

Power Requirements:
100 - 240 VAC 5.6A 50/60Hz
Weight (net) 41 lbs


CAUTION
Risk of electric shock.
Do not open.
Caution: To reduce the risk of electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.


Applicable for USA, Canada or where approved for the usage.
Caution: To prevent electric shock, match wide blade of plug to wide slot. Insert fully.


This symbol is to alert the user to important operating and maintenance (service) instructions in this manual and literature accompanying the product.


This symbol is to alert the user to the presence of uninsulated dangerous voltages inside the product's enclosure that may constitute a risk of electric shock.

Chapter 1: Mark®1210c System

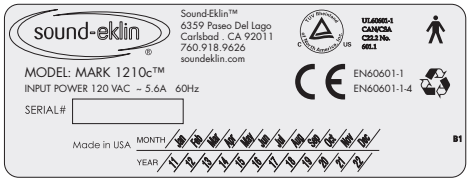
The Mark®1210c system links seamlessly with the X-ray generator to provide the best image quality in a small, lightweight, self-contained system. The Mark®1210c portable Acquisition Stations are intended to be used by Veterinarians for intermittent mobile diagnostic applications. They will connect the Mark®1210c Device to a Xmaru 1210PCB Amorphous Silicon Digital X-Ray Detector.

The Mark®1210c Labels

Windows License Key is located on bottom of Electronics Box

Mark®1210c Electronics Box Serial number

Mark®1210c A-frame Serial Number, CE Markings, and Manufacture Date



Chapter 1: Mark®1210c System *(continued)*

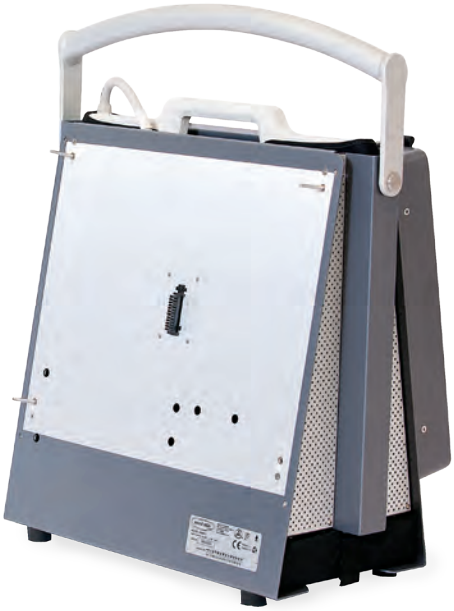
The Mark®1210c Features

To Hold Receptor Pigtail in Place
Power Button with LED Light
70-786 Neoprene Cover for Xmaru 1210PCB Detector
Hard Drive Activity Indicator
sound-eklin
Storage for 10-124 22' Plate cable f/Xmaru 1210PCB Detector

The Mark®1210c Important Part Numbers

94-856 Mark®1210c

34-853 Mark®1210c,
Electronics Box Assembly



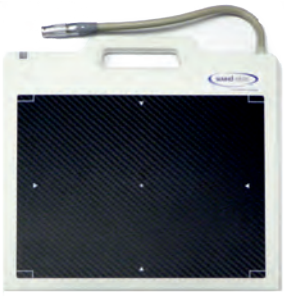
34-852 Mark®1210c, A-Frame,
Assembly, v2

Chapter 1: Mark®1210c System

The Mark®1210c Important Part Numbers *(continued)*

10-867 Min-X-Ray Sync Cable for Mark®1210c
Syncs the generator's prep and expose cycle with the computer.

90-403 10' Ethernet Patch Cable
Connects the computer to the network to allow for easy image transfers from the Mark®1210c to PACS.



91-408 Xmaru 1210PCB Detector
Captures digital radiographs.

10-124 22' Detector Cable f/Xmaru 1210PCB
Provides power to the plate and syncs the plate and Mark®1210c System.

10-171 Equine 20' IEC-NEMA Power Extension Cord
Connects the Mark®1210c to any standard U.S. 110V power outlet (Nema 5-15).

Chapter 1: Mark®1210c System *(continued)*

The Mark®1210c Key Connections Overview

10-867 Min-X-ray Sync Cable for Mark®1210c
10-124 22' Detector Cable f/Xmaru 1210PCB
10' Ethernet Patch Cable
24-122 Keyboard with Touch-Pad
10-171 Equine 20' IEC-NEMA Power Extension Cord
Mark

Connecting the Detector Cable f/Xmaru 1210 PCB

1. Remove the Plate and the Plate Cable.
2. Connect the 22’ Detector cable f/Xmaru 1210PCB (10-124) by aligning the red dot and notch on the cable with the red dot and notch on the receptacle.
3. Connect plate cable to the plate if it is not already connected.

Chapter 1: Mark®1210c System *(continued)*

Connecting the Generator

The sync cable should stay connected to the generator and should be stored in the generator box.

1. Plug the Min-X-ray Sync Cable (10-867) into the Mark®1210c.
   Align by red dots on each end of the connector.
2. Plug the hand switch end of the Min-X-ray Sync Cable
   (10-867) into the generator hand switch port.

Powering Up the Mark®1210c System

1. Plug the female end of the power cable into the power cable slot on the Mark®1210c box. Plug the other end into a grounded power outlet (see page ii Power Requirements).
2. With the cables connected, turn on the Mark®1210c by pressing the power button on the top of the unit.

Chapter 2: Opening Mark®1210c Software

Open the Mark®1210c software to begin the process of taking a radiograph.

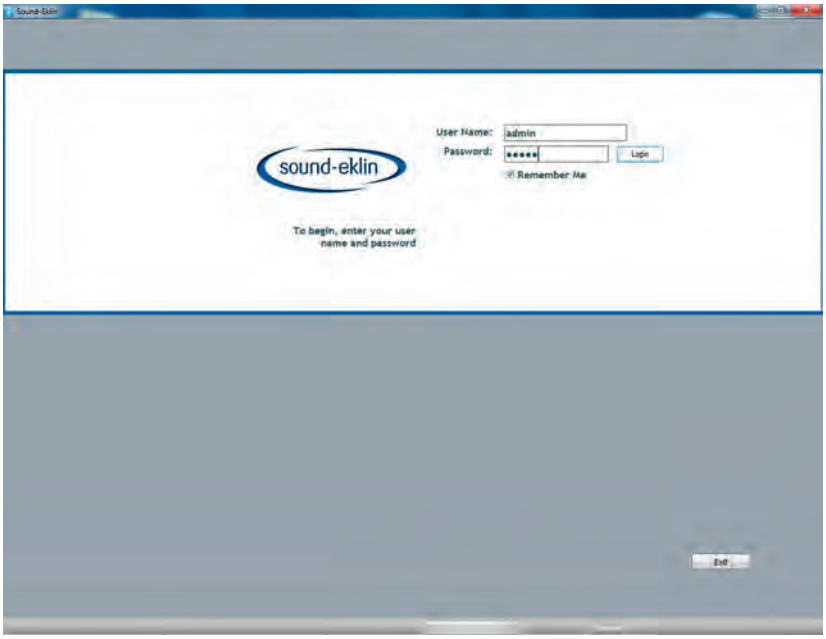
1. Double-tap the TruDR™ icon on the desktop. This will load the TruDR™ software for acquiring digital radiographs.
2. Enter the user name and password when the login screen appears.

   The default login is:

   User Name: admin

   Password: admin

The software will load directly into the Patient Screen if the "Remember Me" box is checked.

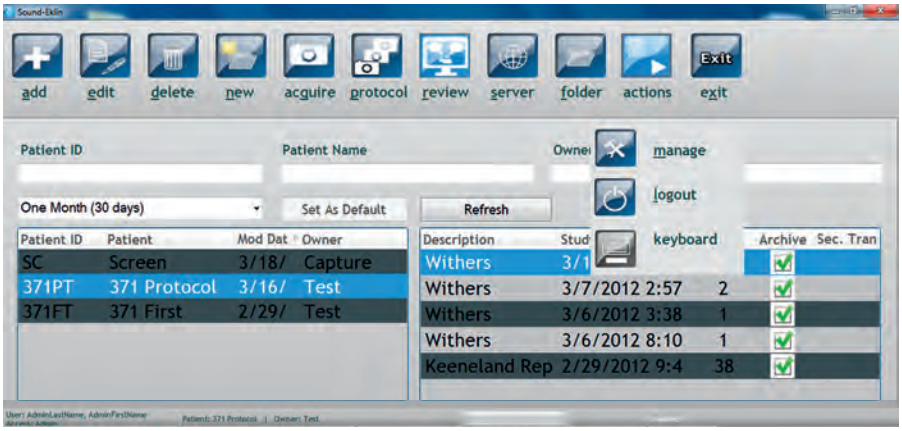


Chapter 3: Adding Users

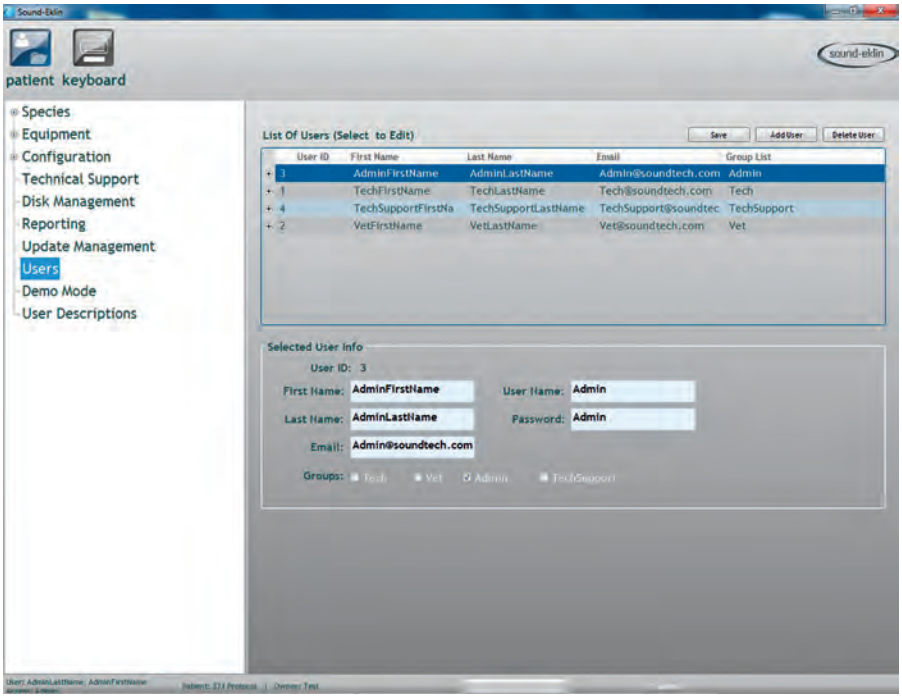
Add veterinarians and technicians to **TruDR ™** .

1. Touch the **Manage** button in the **Patient List Screen**.

To access the Manage screen, the user needs to have Administrative rights. Changing items in the Manage Screen other than "Users" and "Protocols" may cause your system to function improperly. If you are concerned about making changes in the Manage Screen, please contact Technical Support at 1.800.268.5354.



2. Select the **Users** menu from the left side of the screen to load the Users Screen.



Chapter 3: Adding Users *(continued)*

3. Touch the **Add User** button in the Acquisition Screen.
4. Enter the User's name in the **First Name** and **Last Name** fields.
5. Create a unique user name and password in the **User Name** and Password fields.

Suggested user name: First initial of your first name plus last name (e.g. jsmith for John Smith). Passwords can be left blank for ease of use.

6. Select a Group or Groups for each user by Touching **Tech** or **Vet**.

   Each Group allows different permissions. You may select multiple check boxes per user:

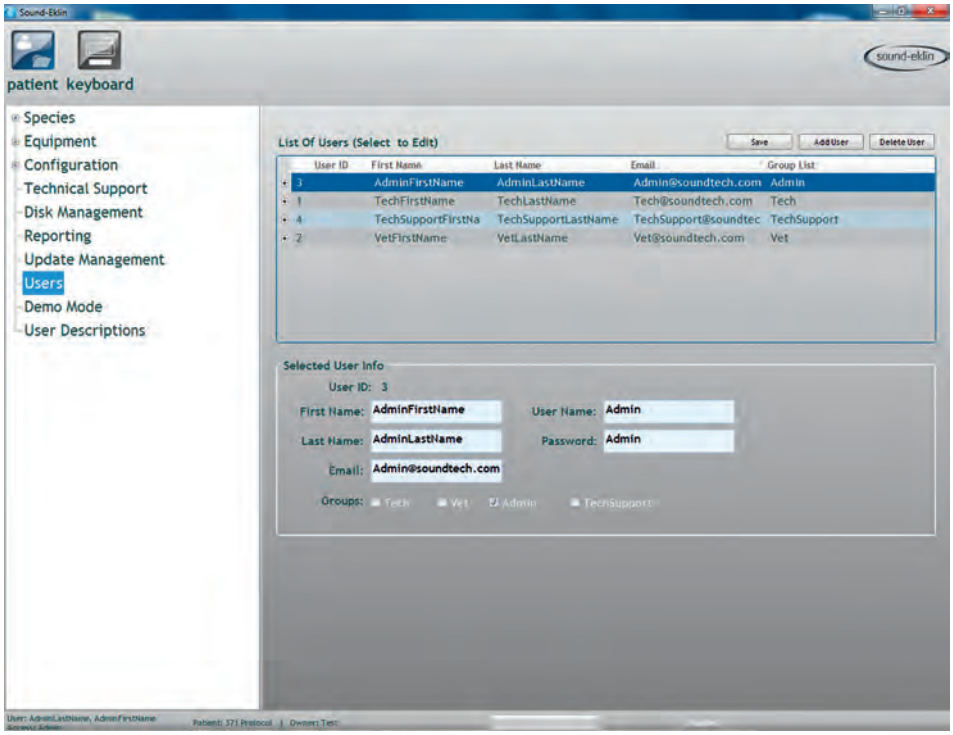
   Tech: User is added to the Tech pull down list has no access to the Manage features.

   Vet: User is added to the Vet pull down list, has no access to the Manage features.

   Admin: Has full access to the Manage features.

   Tech Support: Should only be used by Sound-Eklin® Tech Support

7. Touch the Save button [Save] to add the User.



8. Repeat steps 3 through 7 to add additional Users.

Please note: There must be at least one TECH active in the user menu.

Chapter 4: Patient Information

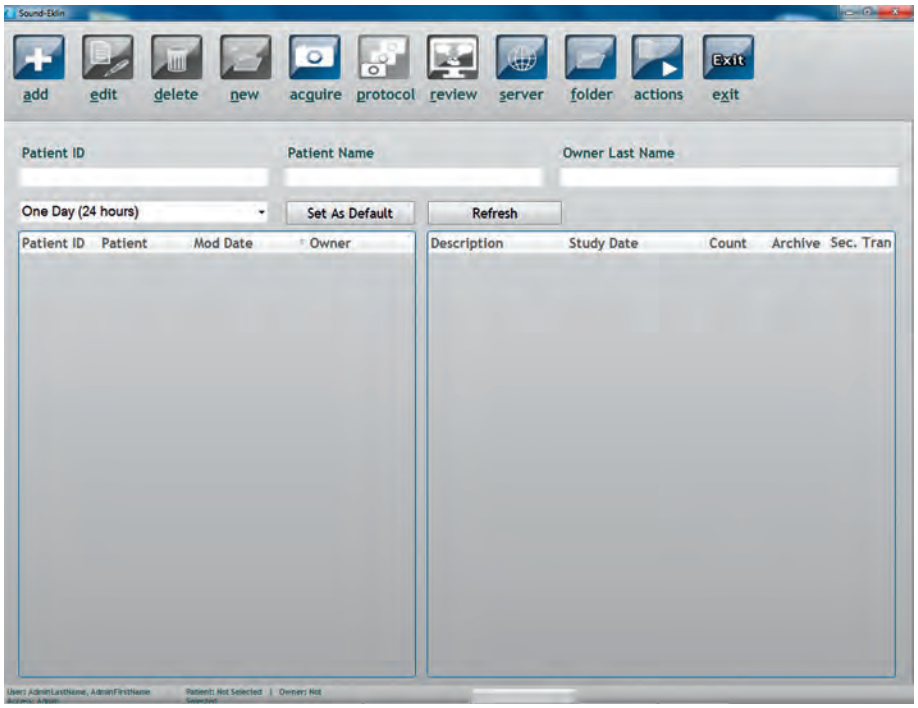
Searching and Adding Patients

Search for existing patients or add new patients easily by using the filtered search fields.

1. Search for a patient in the Patient Screen by entering the **Patient ID**, the **Patient Name**, or the **Owner Last Name**. The patient list will automatically filter as you type.

   Patient list is displayed based on the User Selected Default.

2. If you do not see the patient you are searching for, Touch the **Add** button or press the **Enter** key on the keyboard to bring up the Add Patient Screen.



3. Enter the patient's information. **Patient Name** and **Last Name** are required fields.

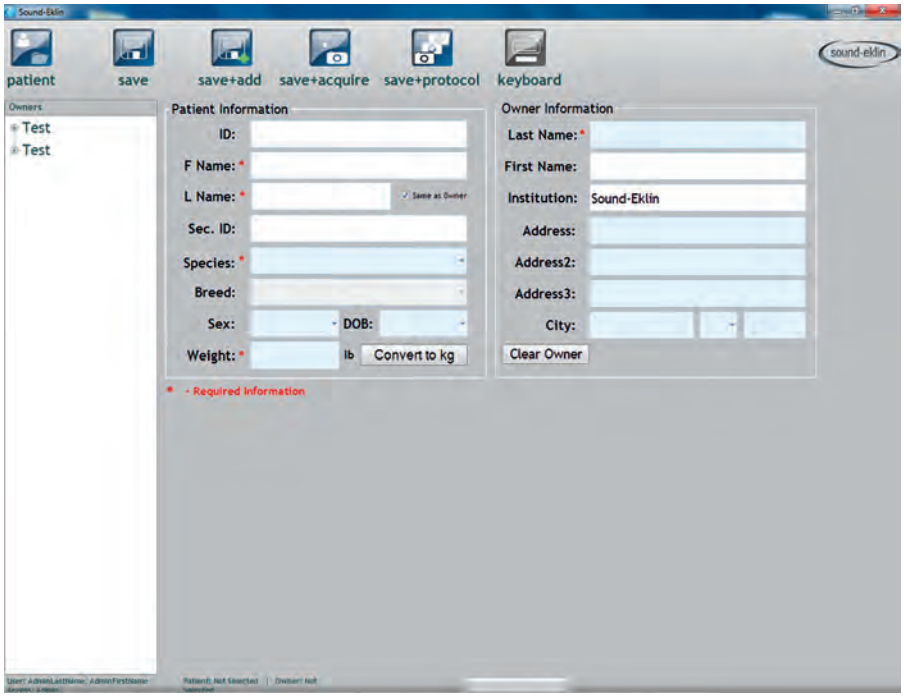
   When entering patient name and last name, DO NOT use special characters such as: % $ &. Special characters and symbols can cause problems in the patient name fields.

Chapter 4: Patient Information

Searching and Adding Patients *(continued)*

4. Touch one of the Save buttons.

	Save	Saves the current patient and returns you to the Patient Screen.
	Save+ Add	Saves the current patient **and remains in the Add Patient Screen.**
	Save+ Acquire	Saves the current patient then **opens the Anatomy Selection Screen.**
	Save+ Protocol	Saves the patient and **brings you to the Protocol Selection Screen.**



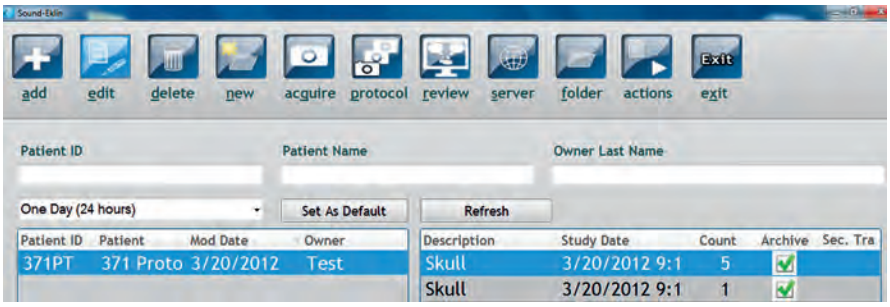
Chapter 4: Patient Information *(continued)*

Editing an Existing Patient's Information

Edit an existing patient's information for future DICOM tagging.

Previous exam information cannot be changed

1. Select a patient to edit from the Patient Screen.
2. Touch the **Edit** button.



3. Edit the information as needed.

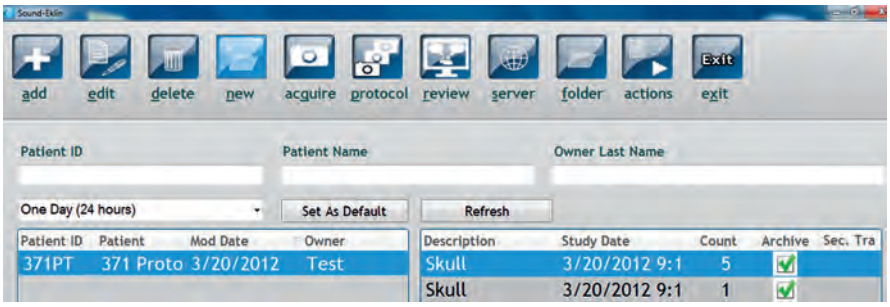
If the patient is from an owner previously entered, owner can be selected from owner list on the left hand side.

4. Touch the appropriate **Save** button *(see Page 17)*.

Creating a New Study for an Existing Patient

Create a new study for a patient previously entered in TruDR™ .

1. Search for a patient in the Patient Screen by entering the Patient ID, the Patient Name, or the Owner Last Name. The Patient List will automatically filter as you type.
2. Select a patient by Touching on the name in the Patient List.
3. Touch the New button to create a new study.



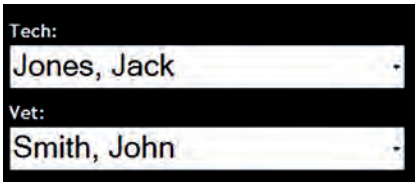
4. Select the anatomy and the view from the Anatomy Screen *(see Page 19)*.

Chapter 5: Creating Radiographs

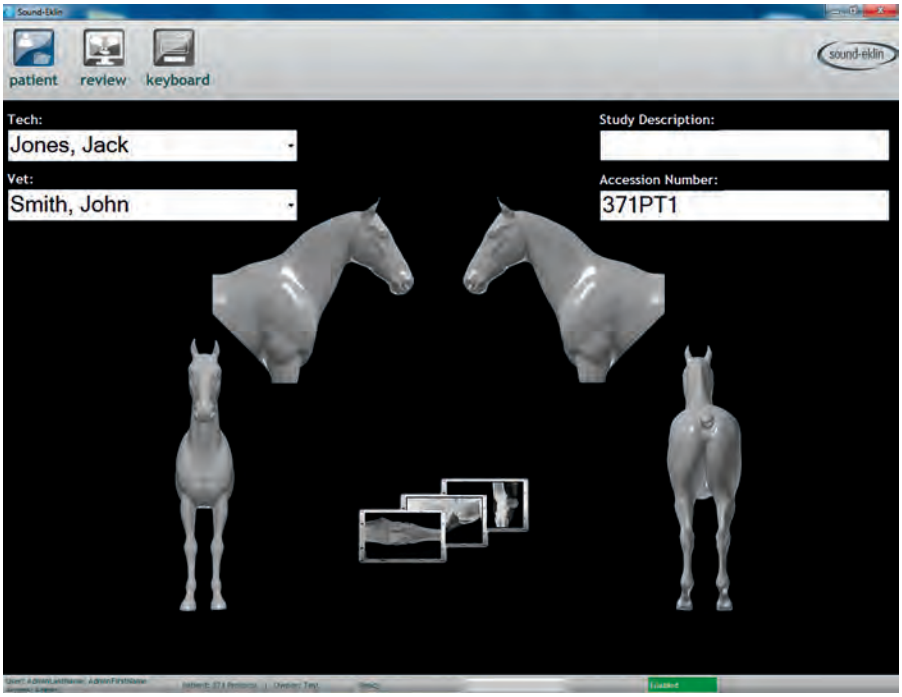
Choosing Anatomy and Positioning

Choose the anatomy and positioning to automatically enhance and position the radiograph.

1. Select the **Tech** and ordering **Vet** from the drop-down menus.



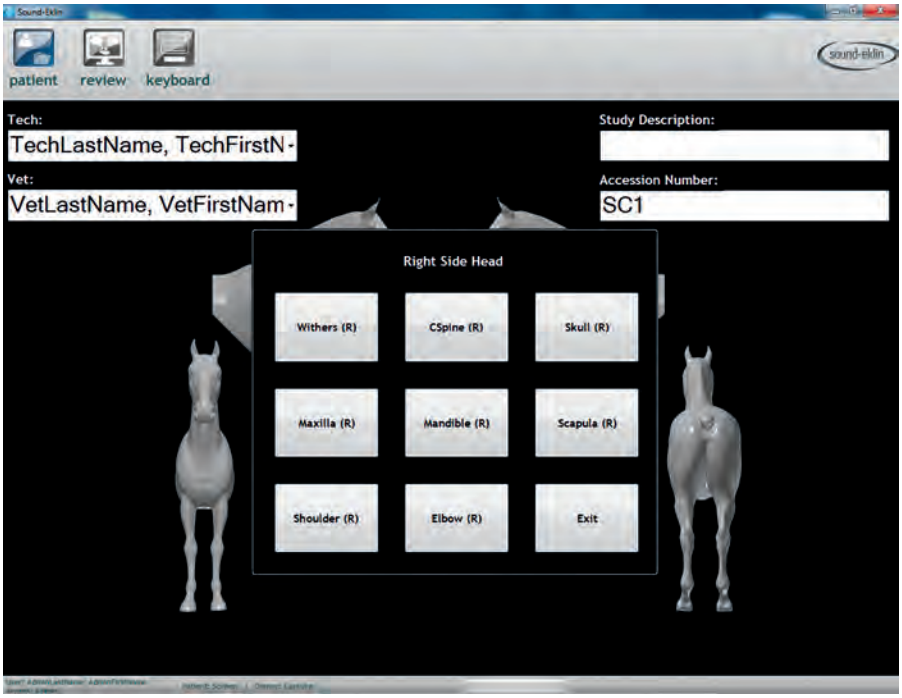
2. Touch the Mark®1210c touchscreen and select the appropriate anatomy.



Chapter 5: Creating Radiographs

Choosing Anatomy and Positioning *(continued)*

3. Touch on the appropriate view button for the exposure. This will bring you to the acquisition screen.



Chapter 5: Creating Radiographs *(continued)*

Acquiring Radiographs

1. Set the X-ray generator according to the Sound-Eklin® Technique Chart using the appropriate KVP and mAs (depending on the X-ray generator).

   Due to variations between X-ray generators, optimal techniques may vary somewhat from the values printed on the Sound-Eklin® Technique Chart.

   Users should be fully acquainted with State and local regulations governing radiation protection and the use of diagnostic X-ray equipment as well as the manual for the X-Ray Generator being used.

2. Align the generator 22 inches from the plate using the light beam to fill the entire capture area defined on the plate.

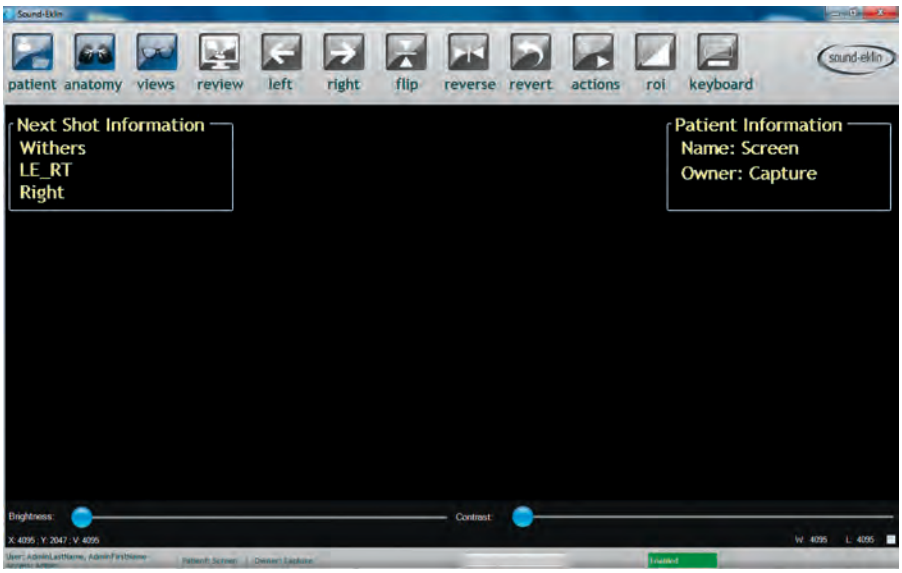
   If the generator is aligned perpendicular, the light will form a rectangle with even sides filling the capture area.

   The image capture area is highlighted by a white box with the dotted cross-hairs in the middle.

3. From the Acquisition Screen press the hand switch halfway down to prep and all the way down to expose the X-ray machine.

   Proper Two-Stage Hand Switch Technique

   1. ***To Prep, push the hand switch halfway down.***
   2. ***Wait until the Generator is ready to fire (i.e. prep light on the X-ray machine is illuminated, etc.).***
   3. ***To expose, push the hand switch completely down.***



Chapter 5: Creating Radiographs

Acquiring Radiographs *(continued)*

4. The image will appear in less than 3 seconds. Use the Use Left, Right, Flip, Reverse, ROI or Crop buttons to make orientation adjustments before shooting the next shot.

'Window' and level with finger in up and down, left or right motion.

Crop the images as needed (see Pages 20-21).
If you need to reshoot your X-ray, press the hand switch and fire again.

5. **Touch the Views button** **to change views.**
6. Touch the **Anatomy** button if another anatomy is needed.
7. Touch the **Review** button to review.

Chapter 5: Creating Radiographs *(continued)*

Cropping a Radiograph

Remove unwanted portions of the radiograph.

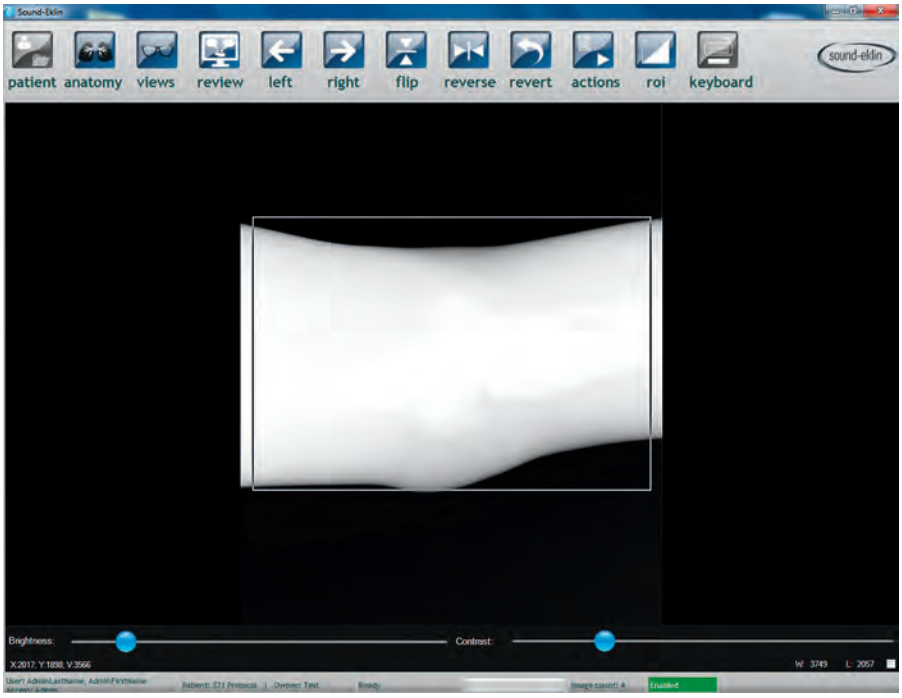
1. Make adjustments before shooting the next radiograph. To do so,
   Touch the **Action** button. Touch the **Crop** button in the Acquisition Screen.

The new image will appear lighter after Touching the crop button.
Based on the crop selection the image will be windowed and leveled again.

Chapter 5: Creating Radiographs

Cropping a Radiograph *(continued)*

2. Frame the desired image dragging from upper left corner to lower right hand corner of the touchscreen with finger.



3. The image will enhance once it is cropped. The image will perform an ROI based on crop size.
4. Re-crop the image if necessary before taking the next radiograph by repeating the steps.

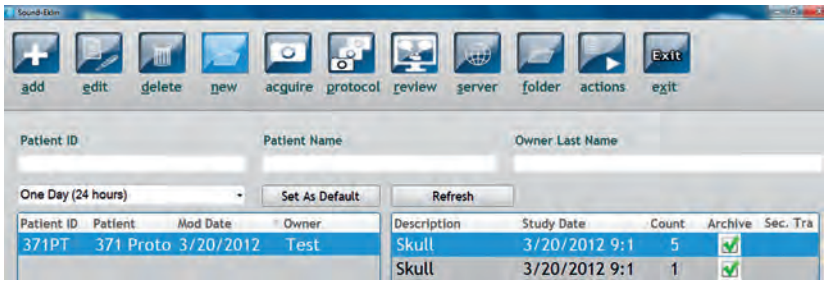
Chapter 6: Protocols

Using Protocols

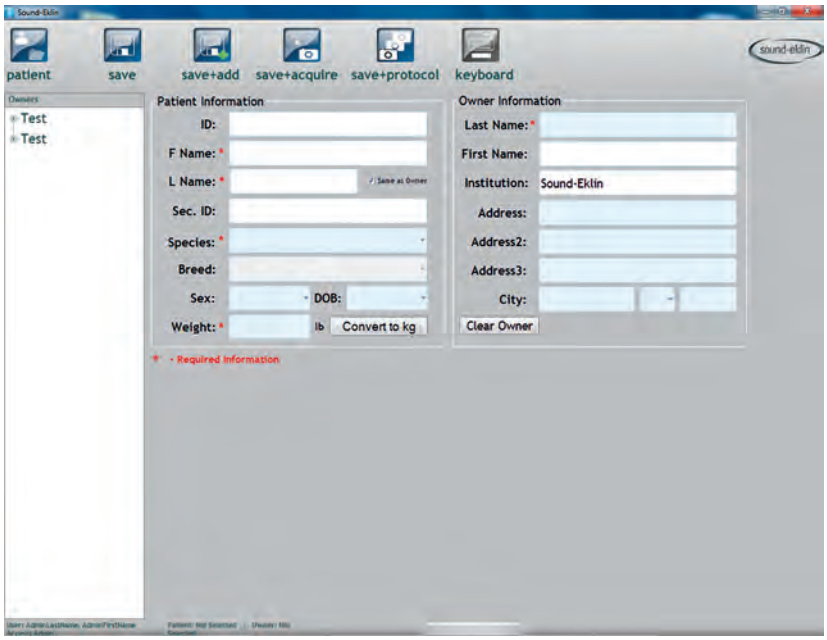
Shoot a series of X-rays in a preset order which automatically advances to the next shot after each shot taken.

1. From the Patient Screen, select the **Patient** and Touch **Protocol**.

Or, from the Patient Screen, select **New and then touch the Protocol** link on the Anatomy Selection screen.



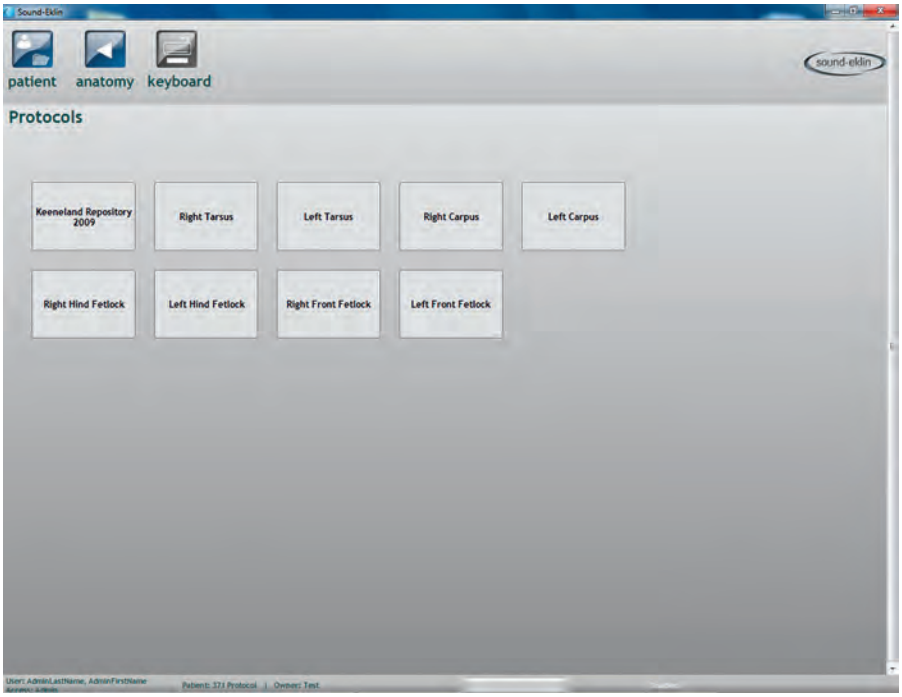
Or, from the Add Patient or Edit Patient screen, Touch **Save + Protocol**. *(To Add a Patient see page 13).*



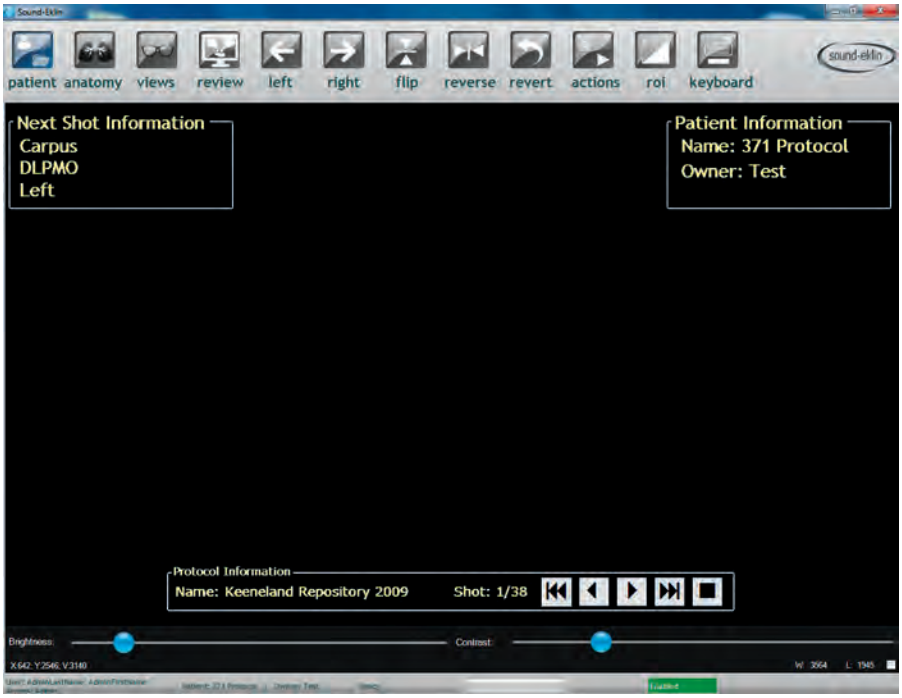
Chapter 6: Protocols

Using Protocols *(continued)*

2. Press a **Protocol** button to begin that Protocol.



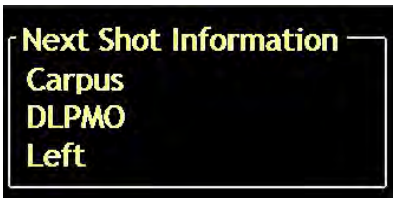
3. **The Acquisition Screen will display a Protocol Overlay consisting of Next Shot Information, Patient Information and Protocol Information subsections, as seen in the next image.**

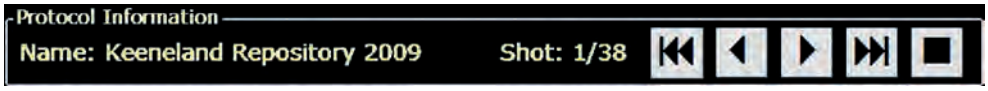


Chapter 6: Protocols

Using Protocols *(continued)*

4. Shoot the first image. The software will automatically advance to the next shot in the protocol series. The shot number in the Protocol Information Bar keeps track of the shot **sequence, while the Shot Information for the next image appears in the upper left.**





5. Use the Protocol Information bar to repeat a shot, skip a shot, restart the protocol, move to the last shot in the protocol, or stop the protocol.

Move to the first shot in the protocol series

Repeat the previous shot

Skip to the next shot

Skip to the last shot in the protocol series

Stop the protocol

6. Touch the **Review** button to open the Review screen *(see Page 34)*.

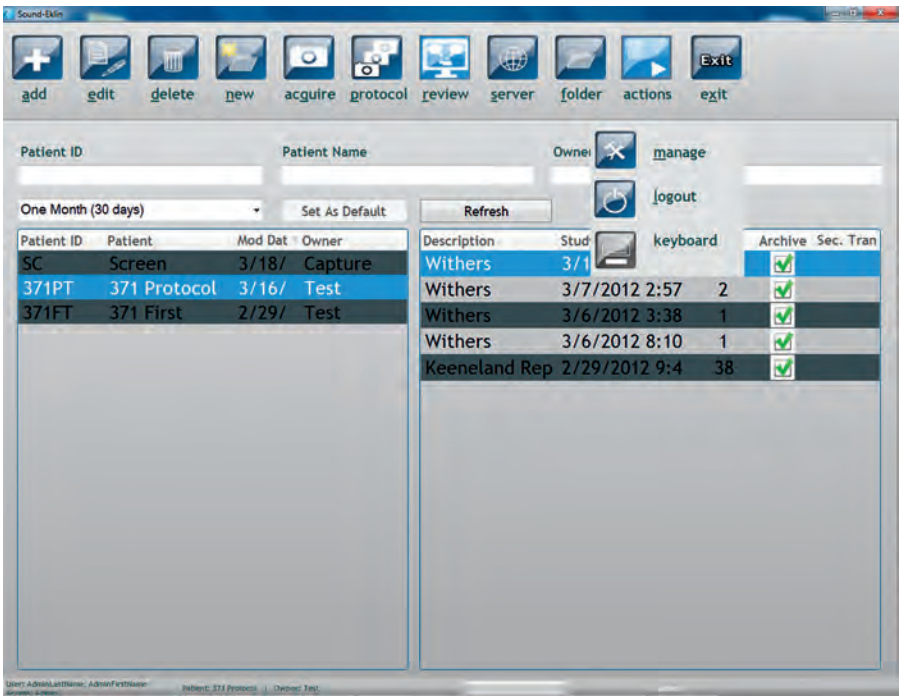
Chapter 6: Protocols *(continued)*

Adding New Protocols

Create new protocols for your individual studies.

1. Touch the **Actions** button to access the **Manage** button in the Patient Screen.

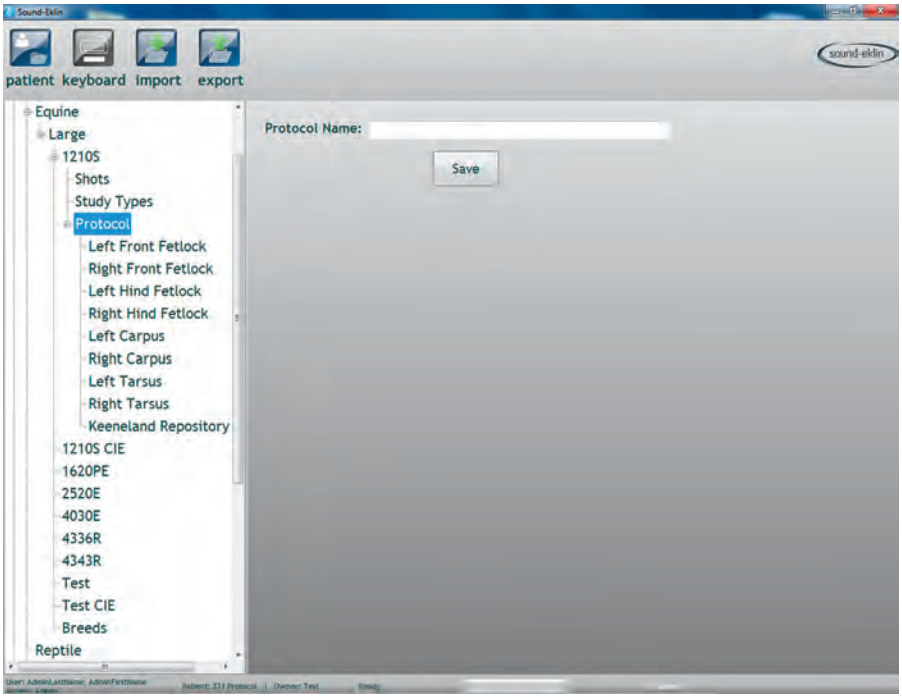
To access the Manage screen, the user needs to have Administrative rights. Changing items in the Manage Screen other than "Users" and "Protocols" may cause your system to function improperly. If you are concerned about making changes in the Manage Screen, please contact Technical Support at 1.800.268.5354.



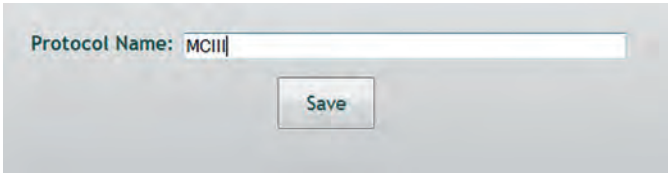
Chapter 6: Protocols

Adding New Protocols *(continued)*

2. Touch on the **Plus Sign** next to the Protocols List to show the existing protocols.
3. Select the **Protocols** menu from the left side of the screen to load the Protocol Screen. Navigate to Species > Equine > 1210S > Protocol.



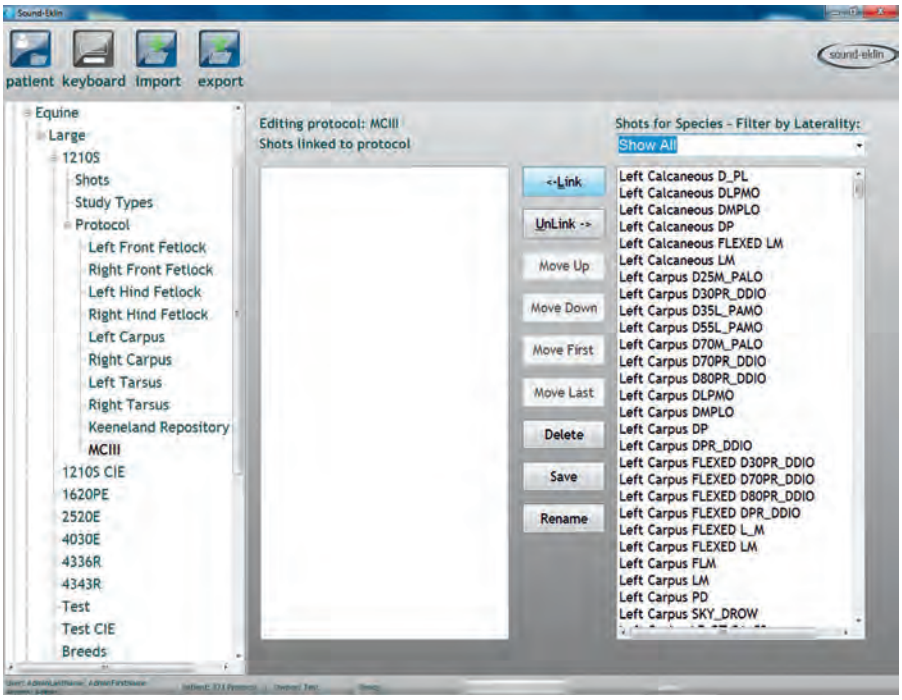
4. Enter the name of your new protocol in the **Protocol Name** field.
5. Touch the **Save** button.



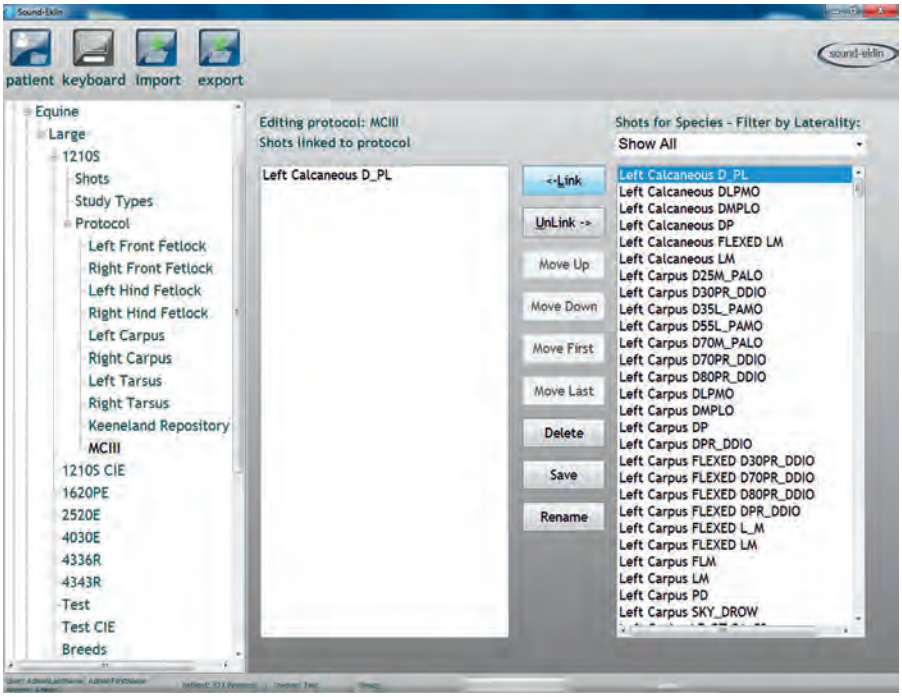
Chapter 6: Protocols

Adding New Protocols *(continued)*

6. Filter the shots as necessary by selecting the **Filter by Laterality** drop down menu.



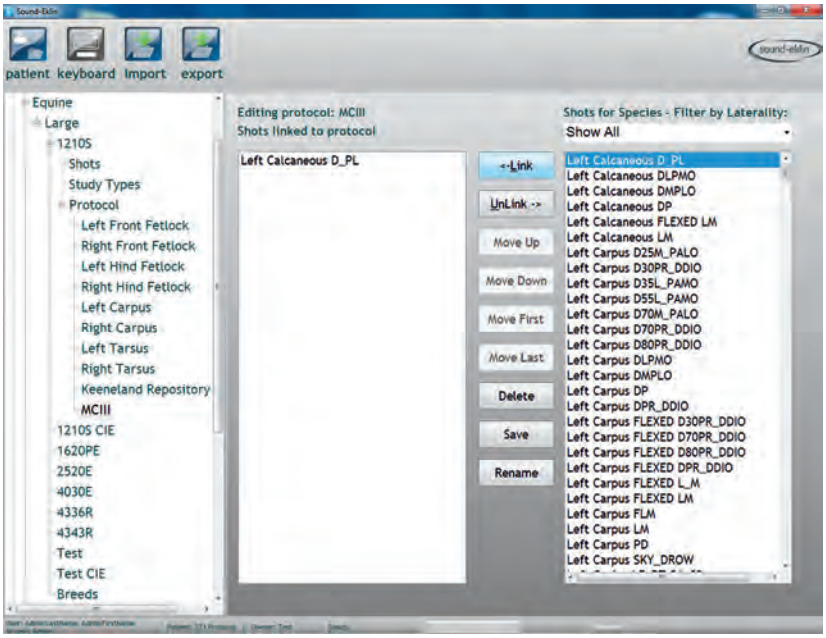
7. Select the first shot from the Shots for Species list.



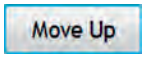
8. Touch the **Link** button to add the shot to the **Shots Linked to Protocol** box.

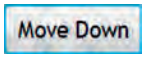
Chapter 6: Protocols

Adding New Protocols *(continued)*



9. Repeat step 6 through 8 as necessary.
10. Touch the **Unlink** button to remove any shots from the **Shots Linked to Protocol** box.
11. Select a shot in the **Shots Linked to Protocol** box and change the order using the **Move Up, Move Down, Move First,** and **Move Last** buttons.

 Moves your protocol shot up one shot in the series.

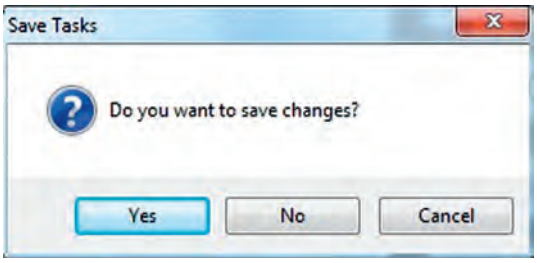
 Moves your protocol shot down one shot in the series.

Moves your protocol shot from its location to the first shot in the series.

Moves your protocol shot from its location to the last shot in the series.

12. Touch the **Save** button to save your protocols.
13. Touch the **Patient** button to return to the Patient Screen.

If you have forgotten to save your protocols, a Save dialogue box will appear. Touch the Yes button to save your changes and return to the Patient Screen.



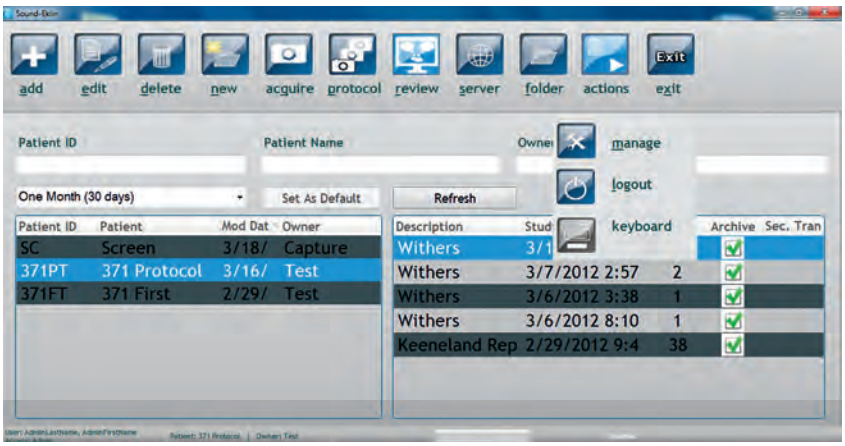
Chapter 6: Protocols *(continued)*

Editing Existing Protocols

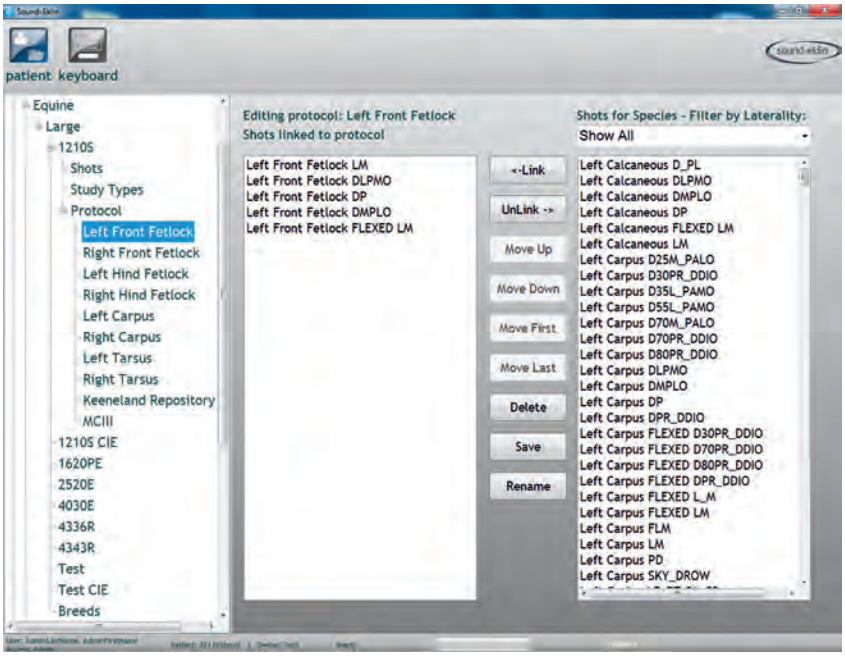
Edit current Protocols to customize them to your shot series.

1. Touch the Actions button to access the **Manage** button in the Patient Screen.

To access the Manage screen, the user needs to have Administrative rights. Changing items in the Manage Screen other than "Users" and "Protocols" may cause your system to function improperly. If you are concerned about making changes in the Manage Screen, please contact Technical Support at 1.800.268.5354.



2. Touch on the **Plus Sign** next to the Protocols list to show the existing protocols.
3. Select a **Protocol** to edit from the left side menu, make changes and Touch **Save**.



Closing the software and re-opening is required to save protocol database changes.

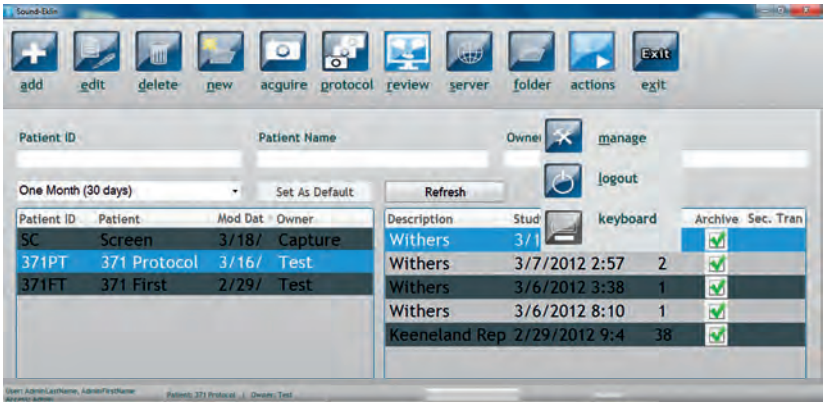
Chapter 6: Protocols *(continued)*

Renaming Protocols

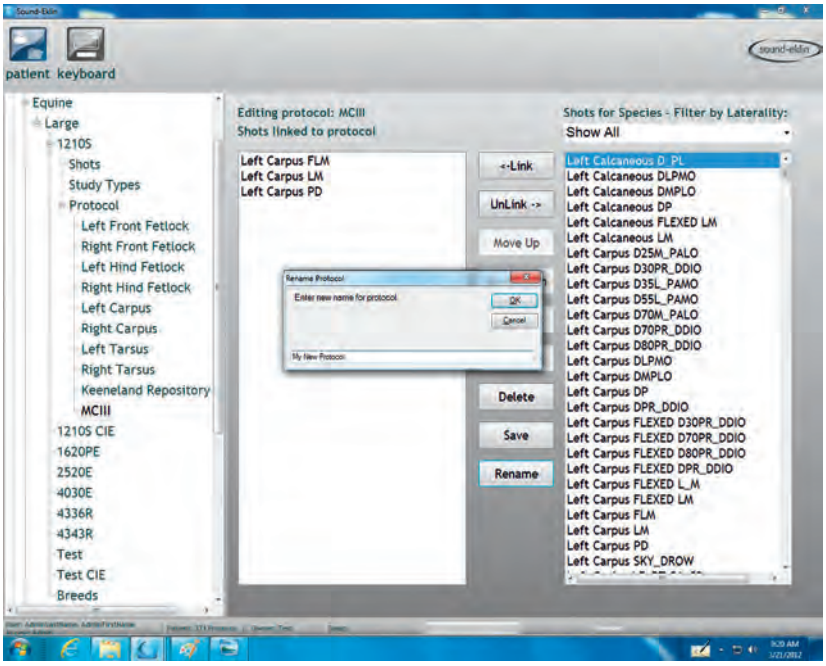
Rename current protocols.

1. Touch the Actions button to access the **Manage** button in the Patient Screen.

> ***To access the Manage screen, the user needs to have Administrative rights. Changing items in the Manage Screen other than "Users" and "Protocols" may cause your system to function improperly. If you are concerned about making changes in the Manage Screen, please contact Technical Support at 1.800.268.5354.***



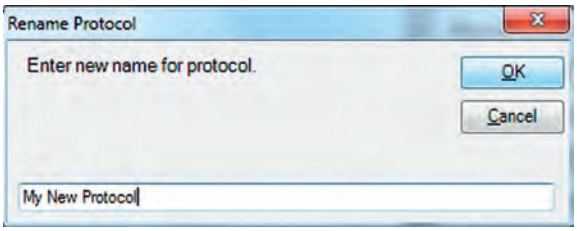
2. Touch on the **Plus Sign** next to the Protocols List to show the existing protocols.
3. Select the **Protocol** to rename from the left side menu. Touch the **Rename** button.



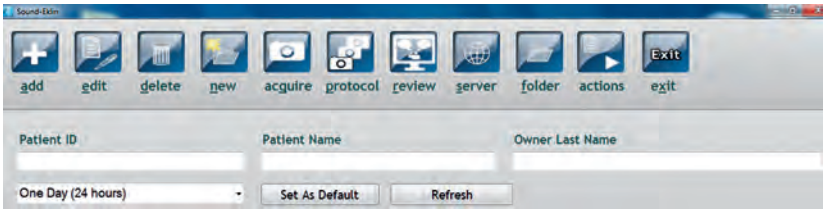
Chapter 6: Protocols

Renaming Protocols *(continued)*

4. Rename the protocol in the text box and Touch the **OK** button when finished.



5. Restart the software by touching Exit from the Main Patient Screen

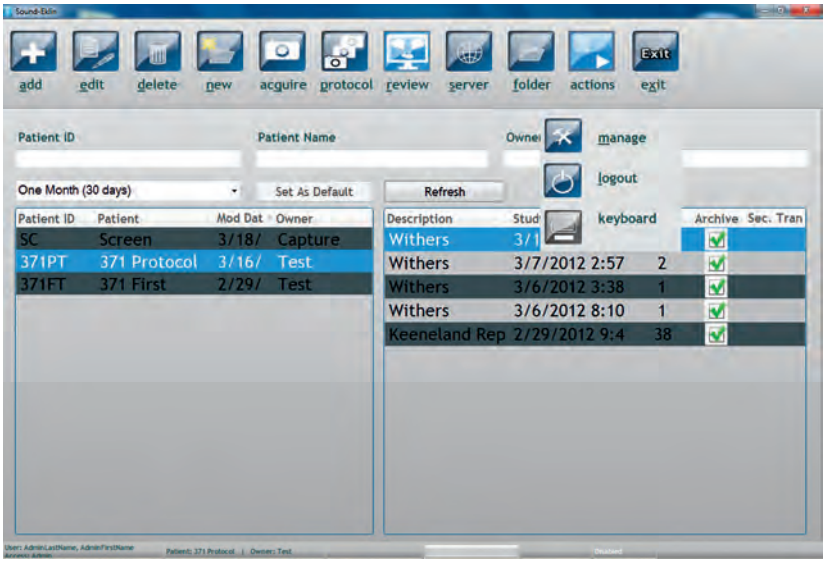


Deleting Protocols

Delete current protocols.

1. Touch the Actions button to access the **Manage** button in the Patient Screen.

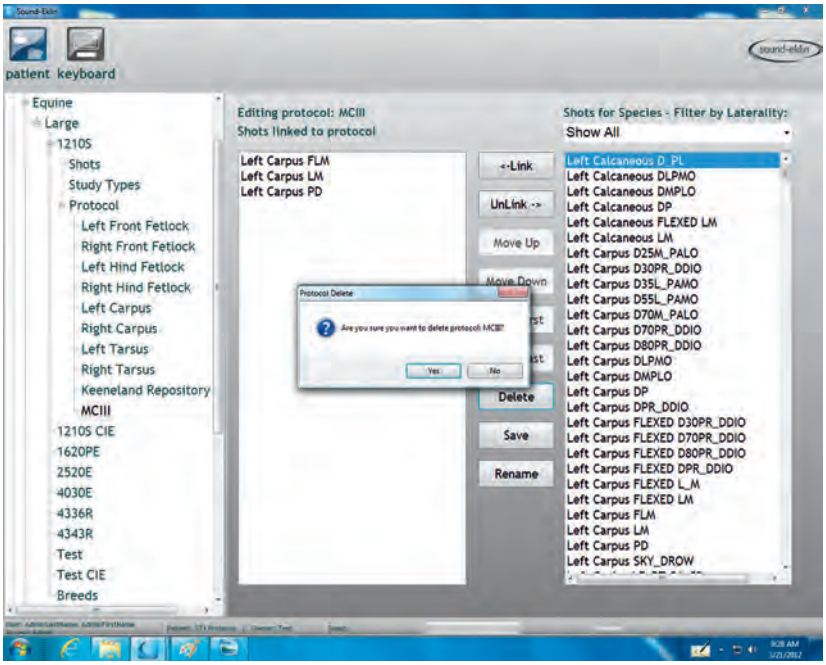
To access the Manage screen, the user needs to have Administrative rights. Changing items in the Manage Screen other than "Users" and "Protocols" may cause your system to function improperly. If you are concerned about making changes in the Manage Screen, please contact Technical Support at 1.800.268.5354.



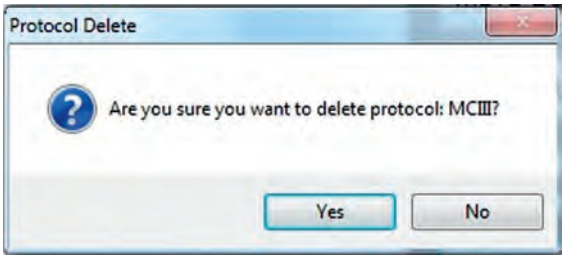
Chapter 6: Protocols

Deleting Protocols *(continued)*

2. Touch on the **Plus Sign** next to the Protocols List to show the existing protocols.
3. Select the **Protocol** to delete from the left side menu Touch the **Delete** button.



4. **Touch the Yes button** to permanently remove the protocol.



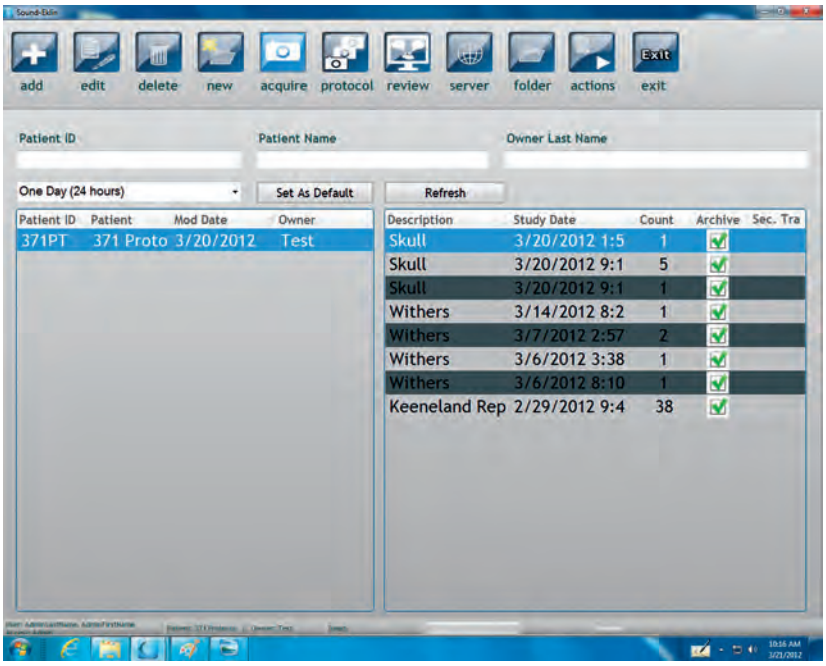
5. Restart the software by Touching the close button in the upper right corner.

Chapter 7: Managing Studies

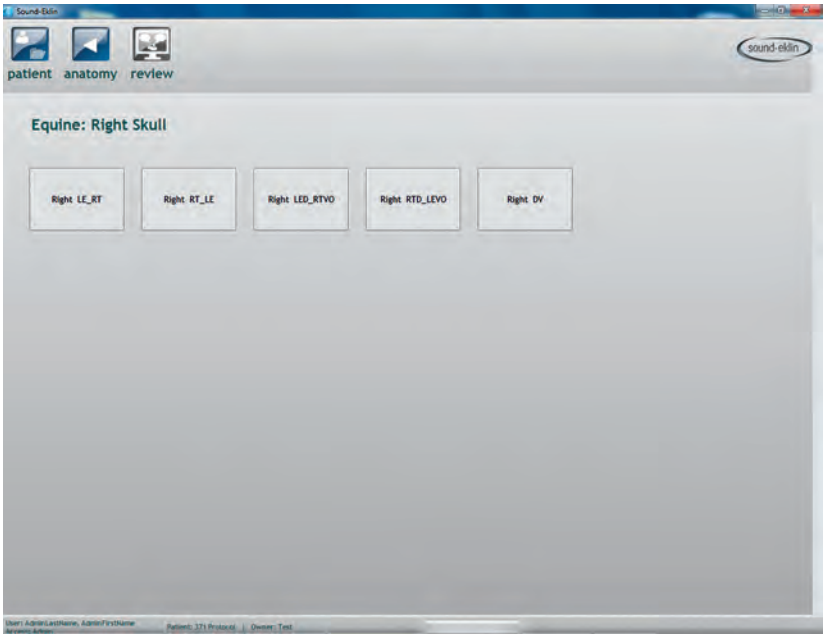
Adding New Images to an Existing Study

Add new images to an existing patient's study.

1. Search for a patient in the Patient Screen by entering the **Patient ID**, the **Patient Name**, or the **Owner Last Name**. The Patient List will automatically filter as you type.
2. Touch the Acquire button.



This will take you to the Views Screen using the anatomy you selected from the original study. This is shown in the description field.

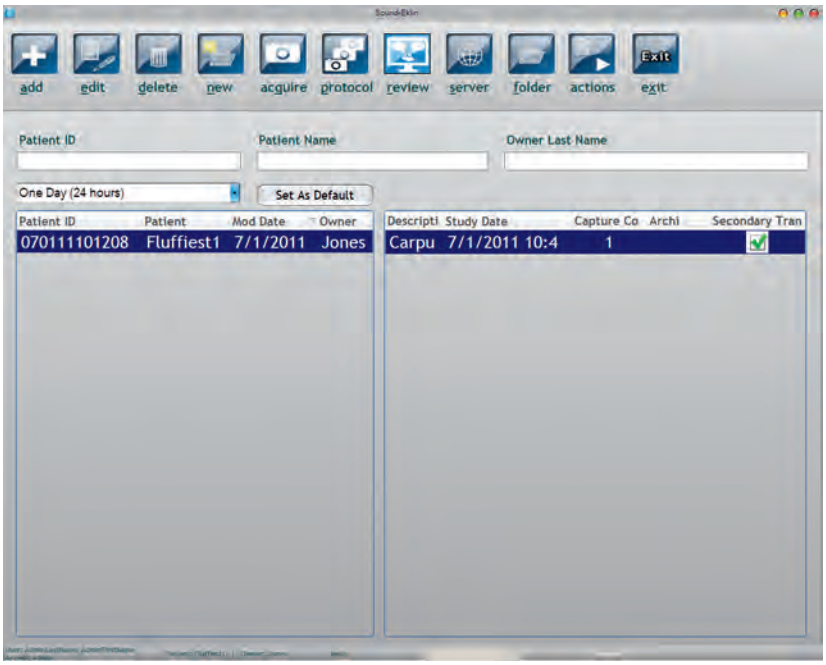


Chapter 7: Managing Studies *(continued)*

Reviewing a Study

Change the layout or delete any unwanted images before the study is archived on the Storage Station.

1. Select a patient by Touching on the name in the **Patient List**.
2. Touch on the **Study** from the list on the right.
3. Touch the **Review** button.



4. Select a thumbnail in the left-hand pane to load the image into the review pane on the right. The selected image is highlighted by a yellow box.

Chapter 7: Managing Studies

Reviewing a Study *(continued)*

5. Review the images by using the following techniques:

Zoom:	Once the Zoom button is selected tap the screen on area you would like to Zoom in on. To Zoom out tap revert button.
Pan:	Tap the Pan button, Touch and drag the image with your finger.
Window Level:	Tap Window Level button, Move up and down with finger on screen to perform Level. Dragging finger Left to Right is Window.

6. Use the toolbar for advanced review features.

	Patient:	Returns to the Patient Screen.
	New:	Opens the Anatomy/Protocol Screen for creating a new study or protocol.
	Acquire:	Opens the Views Screen using the anatomy you selected from the original study.
	Anatomy:	Opens the Anatomy/Protocol Screen to select a new view to add into the same study.
	Save:	Saves the image with any changes that have altered the original image.

Warning message will appear to choose "Yes" to overwrite (replace) the image or "No" to create a new (additional) image.

	Delete:	Removes any unwanted images.

Deleting an image permanently removes it from the computer.

Chapter 7: Managing Studies

Reviewing a Study *(continued)*

Delete: Removes any unwanted images.

Revert: Reverts to the original image.

Rotate:

Left: **Rotates the image 90° counterclockwise.**

Right: **Rotates the image 90° clockwise.**

Flip: **Flips the image vertically.**

Reverse: Flips the image horizontally.

Actions: Shows a drop-down menu with additional review features.

Magnify: Activates the magnifier which will zoom on the selected area.

Invert: Inverts blacks and whites, replicating a fluoroscopy.

Crop: Trims an image without applying enhancements.

Win Level: Selects the window level feature (also accessible using right mouse button).

Zoom: Activates the magnifier which will zoom on the selected area

Pan: Pans the image (also accessible by using the left mouse button).

In the Review Screen, cropping does not re-enhance the image based on the captured area. It only trims the image without re-enhancing the image.

Overlay: Opens menu for DICOM text display.

Hide: Hides all DICOM information.

Summary: Displays patient and shot information.

Detail: Displays patient, shot, and additional detailed information.

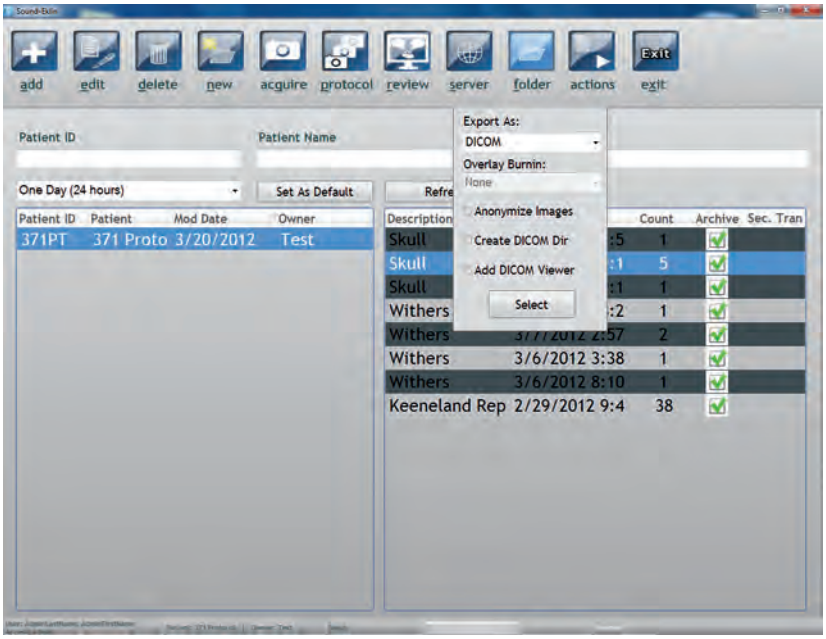
ROI: Draw a box from left to right to window and level based on the Region of Interest.

7. Touch the **Patient** button to return to the Patient Screen.

Chapter 8: Exporting Images to a Folder

Export images from a study to a folder to save on a computer, thumb drive, etc.

1. Search for a patient in the Patient Screen by entering the **Patient ID**, the **Patient Name**, or the **Owner Last Name**. The Patient List will automatically filter as you type.
2. Select a patient and a study. The patient and study are highlighted in a blue box.
3. Touch the **Folder** button.



4. Select either the DICOM or JPEG image format from the Export As: drop-down menu.
5. When selecting the DICOM option from Step 4, Touch the Add DICOM viewer check box only if the computer does NOT have a full DICOM viewer already installed.

Annotation Burning	***Imprints annotations made to saved images***
Anonymize Images	***Strips all client and clinic information from the images***
Repository Format	***Places images in a repository folder format***
Create DICOM DIR	***Adds a DICOM directory to quickly import all images into a PACS system.***

Chapter 8: Exporting Images to a Folder *(continued)*

6. When selecting the JPEG format from Step 4, select the Overlay Burning options from the drop-down menu:

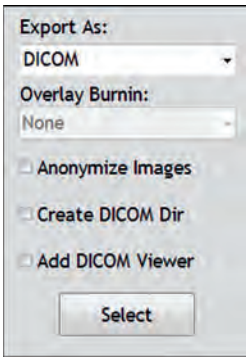
   The default option is set to None:

   None: Does not show overlays on the JPEG image

   Detail: Shows a detailed DICOM overlay on the JPEG image (shows Image Number, Manufacturers Model Number, Study ID, Image Anatomy, View Position, Image Laterality Extended, Columns X Rows, Technique, Institution Name, Physician of Record, Patients Name, Patient ID, Patient Breed Description, Patients Birth Date, Patients Sex, Acquisition Number, Acquisition Date, Acquisition Time.)

   Summary: Shows a summary DICOM overlay on the JPEG image (shows Image Number, Image Anatomy, View Position, Image Laterality Extended, Institution Name, Physician of Record, Patients Name, Patient Breed Description, Patients Birth Date, Patients Sex, Acquisition Date, Acquisition Time).

7. Touch the Select Button.



8. Select a location to save the images.

   Images are saved to a selected location in a folder with the animals name and the clients last name (e.g. Trigger-Smith).

Chapter 9:
Transferring Studies to the Storage Station

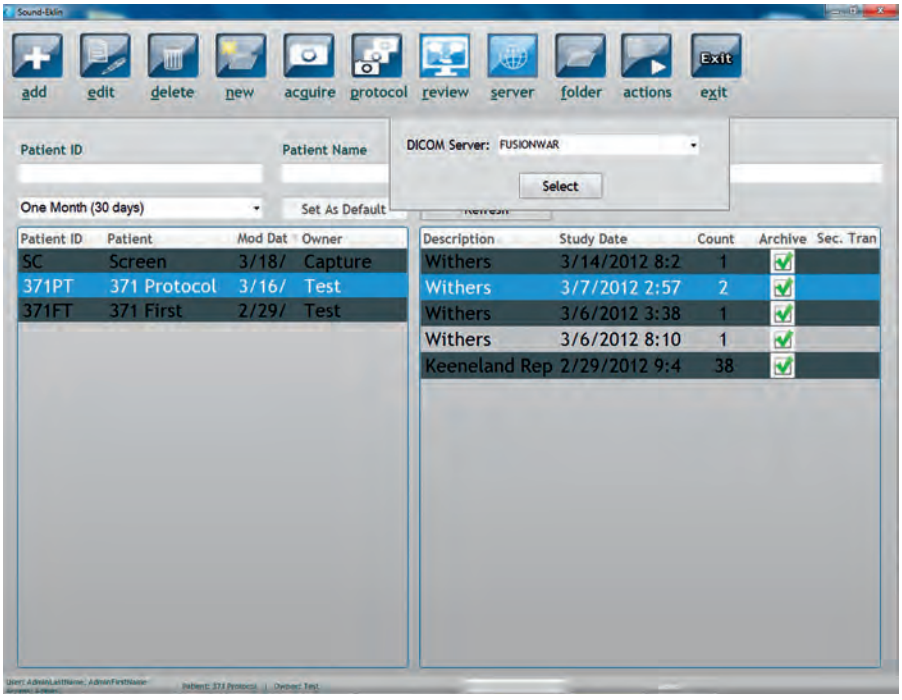
Transfer the studies from the Acquisition Station to the Storage/Review Station.

You must have your Mark®1210c and your Storage/Review Station networked. Please contact your local IT Person for any networking needs and Sound-Eklin® tech support for configuring DICOM Server for the Mark®1210c.

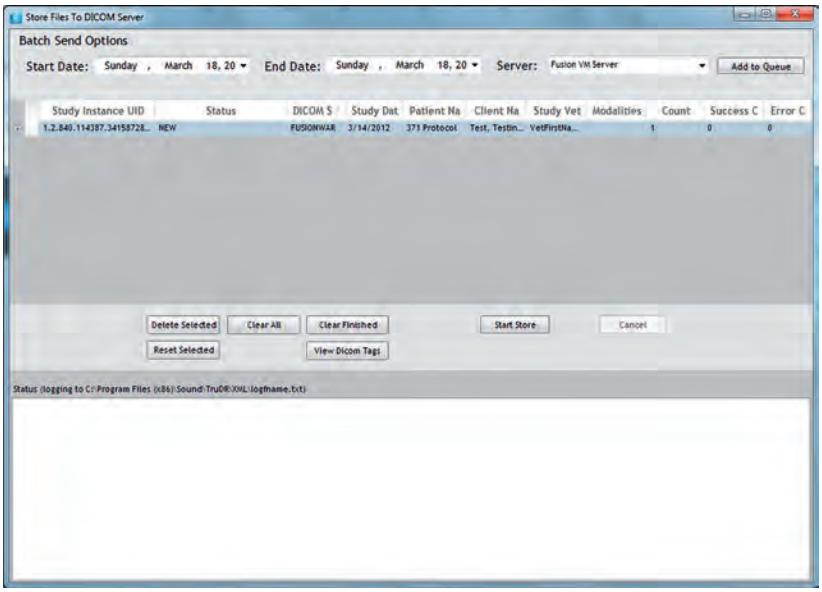
Unit cannot be connected to a network while in use. In addition you must remove network plug

1. Connect a Cat-5 Internet cable into the Internet port on the computer.

2. To bring up the Store Files to DICOM Server screen, Touch the Server Button on the Patient Screen.

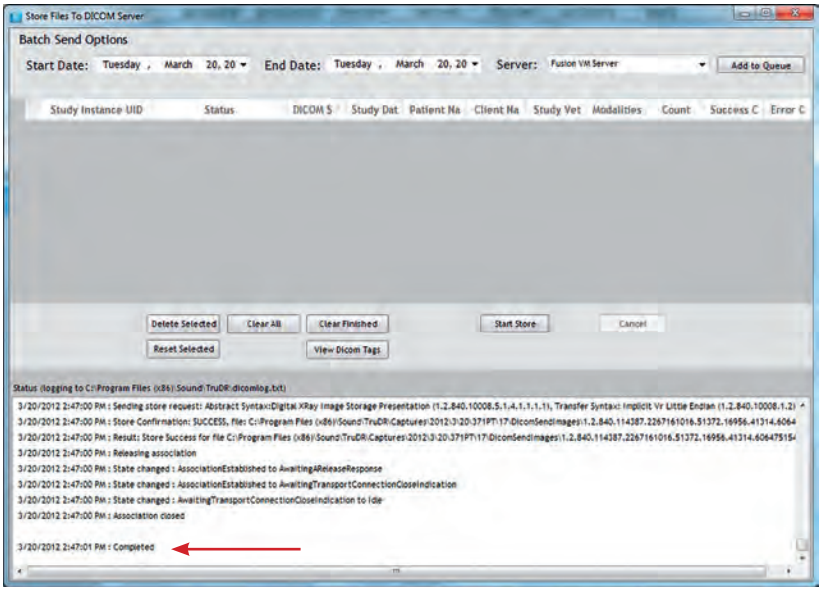


3. Touch the Start Store button to begin the DICOM image transfer to the Storage Station.



This will store all the studies that were taken since your last transfer and clear the queue. If any studies are missing, you can transfer them individually (see the following section).

4. Status box displays transfer results. When the status box states “completed”, your images have successfully transferred to the DICOM server. Touch the Red close button in the upper right corner to close the screen.

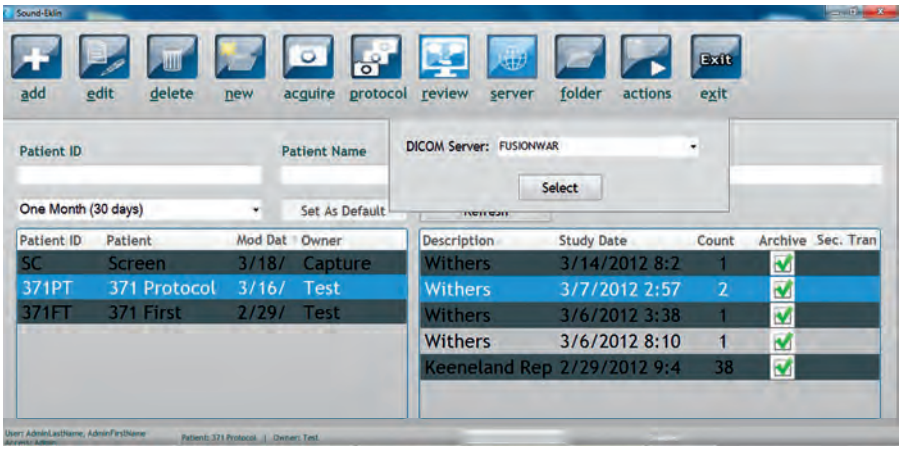


Chapter 9: Transferring Studies to the Storage Station *(continued)*

Transferring Individual Studies to the Storage Station

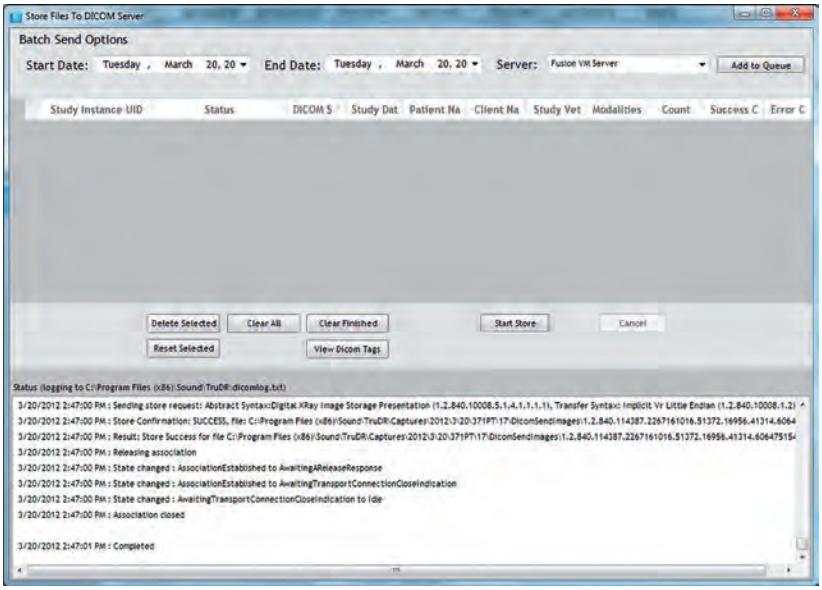
Transfer the studies from the Acquisition Station to the Storage/Review Station.

1. Search for a patient's study by entering the Patient ID, the Patient Name, or the Owner Last Name. The Patient List will automatically filter as you type.
2. Select a patient by Touching on the patient name in the Patient List field.
3. Touch the Server button.



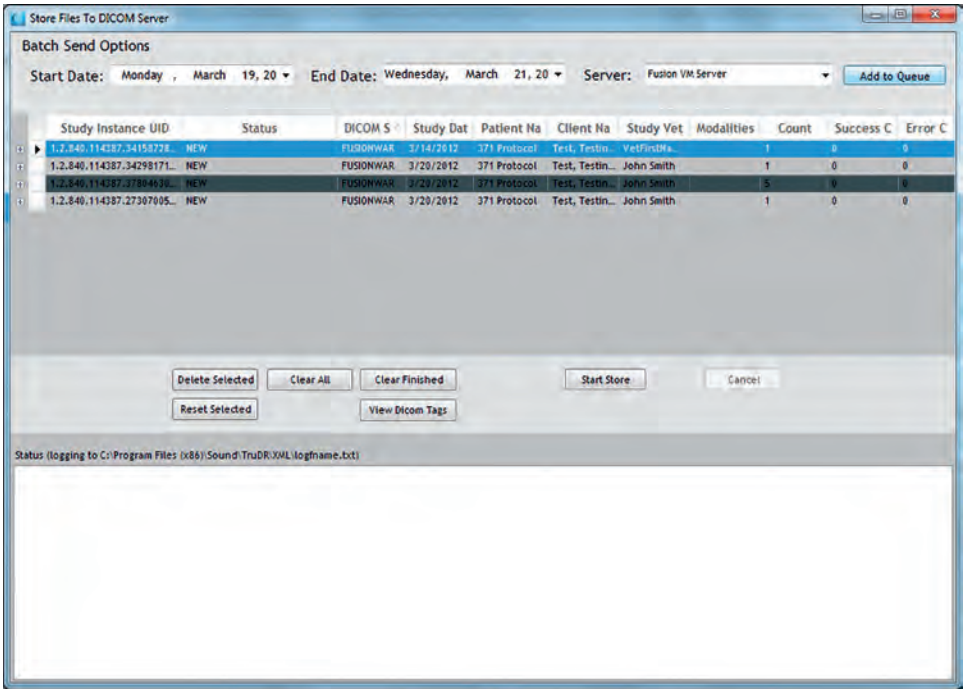
4. Touch the Start Store button to begin DICOM image transfer.

5. Status box displays transfer results. When the status box states "completed", your images have successfully transferred to the DICOM server. Touch the Red close button in the upper right corner to close the screen.



Transferring DICOM Batch to the Storage Station

1. If you wish to send a group of selected studies from a specific time frame, enter the start and end date of these studies in the display at the top of the Batch Send Options window. The DICOM image transfer will send these studies listed in the queue all at once.


Store Files To DICOM Server
Batch Send Options
Start Date: Monday , March 19, 20
End Date: Wednesday, March 21, 20
Server: Fusion VM Server
Add to Queue
Study Instance UID
Status
DICOM S
Study Dat
Patient Na
Client Na
Study Vet
Modalities
Count
Success C
Error C
1.2.840.114387.34158728... NEW FUSIONWAR 3/14/2012 371 Protocol Test, Testin... VetFirstNa... 1 0 0
1.2.840.114387.34298171... NEW FUSIONWAR 3/20/2012 371 Protocol Test, Testin... John Smith 1 0 0
1.2.840.114387.27804636... NEW FUSIONWAR 3/20/2012 371 Protocol Test, Testin... John Smith 5 0 0
1.2.840.114387.27307005... NEW FUSIONWAR 3/20/2012 371 Protocol Test, Testin... John Smith 1 0 0
Delete Selected
Clear All
Clear Finished
Start Store
Cancel
Reset Selected
View Dicom Tags
Status (logging to C:\Program Files (x86)\Sound\TruDR\XML\logfname.txt)

2. Touch the **Start Store** button to begin DICOM image transfer.

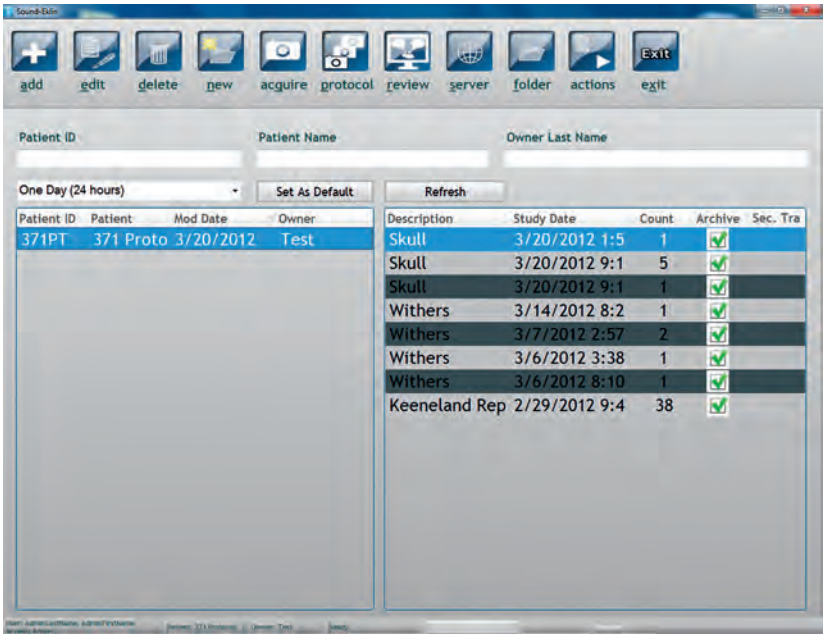
Confirm Storage of a Study

Confirm the study successfully sent to the Storage/Review Station.

1. On the Patient Screen, the Archive field will show a server name (e.g. SOUND-SERV1).
2. Hold the mouse over the server name to show a pop-up window with the transfer data.

The pop-up box displays how many images have been transferred and the date and time of the transfer. The information is color coded for easy reference. If only one study appears, it will be highlighted in blue and the color coding will not appear:
Green Box— Image transfer complete
Red Box — Image transfer failed

Notice the Secondary Transfer field. Secondary Transfer documents the number of studies sent to another PACS system besides the main archive, ie Sound-Serv2.

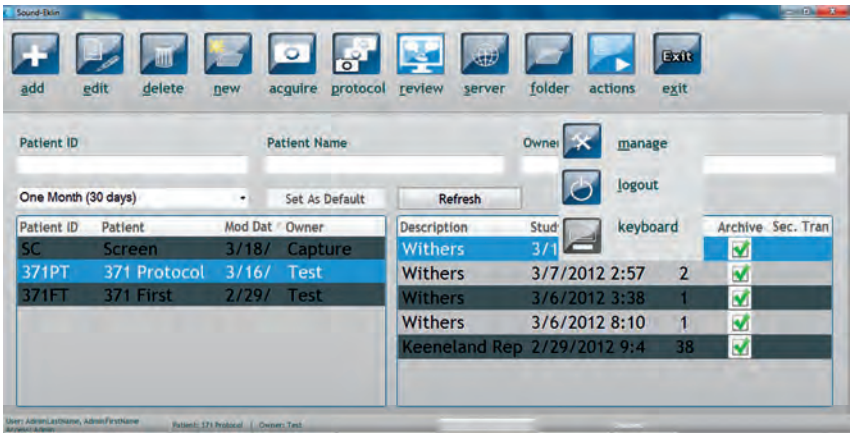


Chapter 10:
Adding and Editing a DICOM Location

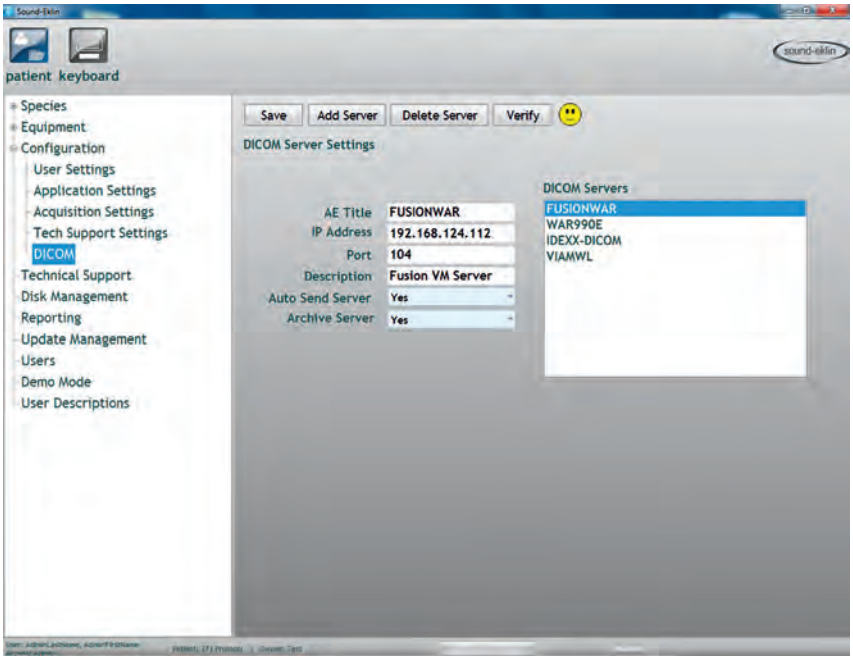
Add DICOM server locations for sending images to a Storage Station, Radiologist, etc.

1. Touch the Actions button to access the **Manage** button in the Patient Screen.

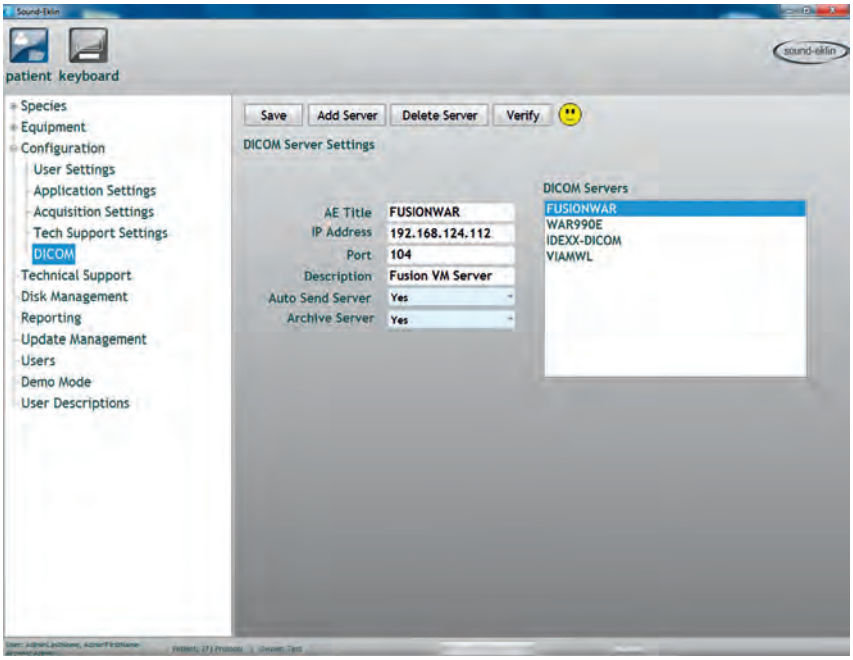
To access the Manage screen, the user needs to have Administrative rights. Changing items in the Manage Screen other than "Users" and "Protocols" may cause your system to function improperly. If you are concerned about making changes in the Manage Screen, please contact Technical Support at 1.800.268.5354.



2. **Select Configuration and then DICOM from the Option Headers on the left side of the screen.**



Chapter 10: Adding and Editing a DICOM Location *(continued)*



3. Touch the Add button [Add Server] to add a new DICOM server. Or if editing select the existing DICOM server from the DICOM Servers list on the Right.
4. Enter the **AE Title, IP Address,** and **Port** number for your DICOM server. OR if editing enter the corrected **AE Title, IP Address,** and **Port** number for your DICOM server.

Contact Sound-Eklin® Technical Support or the location you are sending the DICOM images for the appropriate DICOM provider information.

5. Select additional information by choosing Yes from the drop-down menus.

Only select the following options if you are directed to do so by a Technical Support representative:

Auto Send Server: Automatically sends images to the selected DICOM location.

Allow Worklist: Designates the DICOM location as a worklist modality.

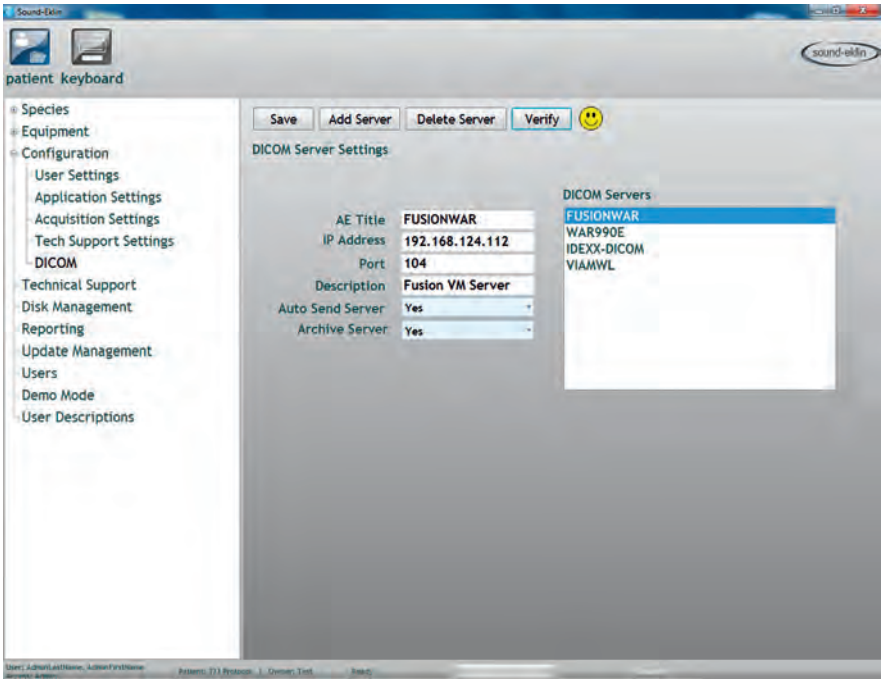
Telemedicine Server: Designates the DICOM location as a telemedicine server.

Archive Server: Designates the DICOM location as an archive server.

6. Touch the **Save** button [Save] to save the current information.

Chapter 10: Adding and Editing a DICOM Location *(continued)*

7. Touch the **Verify** button Verify to verify that you can connect to the DICOM Server.



8. A smiley face will appear when you have verified the connection to the DICOM Server.

If a frowning face appears, please contact Sound-Eklin® Technical Support (1.800.268.5354).

10. Touch the **Patient** button to return to the Patient Screen.

Appendix A:
Digital Radiography Technique Charts

Adult Equine

MinXRay HF8015, TR80, and TR90 at a distance of 22”

Adult — 1,000 lbs	kVP	Seconds	mAs
Distal Extremity (all views)	76	0.06	0.90
Radius	80	0.06	0.90
Elbow	80	0.20	3.00
Stifle: L-M	80	0.10	1.50
Stifle: CdL-CrMO	80	0.34	5.10
Stifle: CdL-CrLO	80	0.34	5.10
Stifle: Cr-Cd	80	0.34	5.10
Tibia	80	0.15	2.25
Large Adult	**kVP**	**Seconds**	**mAs**
Distal Extremity (all views)	80	0.06	0.90
Radius	80	0.08	1.20
Elbow	80	0.26	3.90
Stifle: L-M	80	0.15	2.25
Stifle: CdL-CrMO	80	0.34	5.10
Stifle: CdL-CrLO	80	0.34	5.10
Stifle: Cr-Cd	80	0.34	5.10
Tibia	80	0.15	2.25

Due to variability between x-ray generators,
optimal techniques may vary somewhat from the values printed above.

Appendix A: Digital Radiography Technique Charts *(continued)*

Juvenile Equine

MinXRay HF8015, TR80, and TR90 at a distance of 24”

< 6 month old	kVP	Seconds	mAs
Distal Extremity (all views)	76	0.04	0.60
Radius	76	0.05	0.75
Elbow	76	0.05	.75
Stifle: L-M	76	0.08	1.20
Stifle: CdL-CrMO	76	0.10	1.50
Stifle: CdL-CrLO	76	0.10	1.50
Stifle: Cr-Cd	76	0.10	1.50
Tibia	76	0.05	0.75
6-12 months old	**kVP**	**Seconds**	**mAs**
Distal Extremity (all views)	76	0.05	0.75
Radius	76	0.06	0.90
Elbow	76	0.06	0.90
Stifle: L-M	76	0.10	1.50
Stifle: CdL-CrMO	80	0.12	1.80
Stifle: CdL-CrLO	80	0.12	1.80
Stifle: Cr-Cd	80	0.15	2.25
Tibia	80	0.06	0.90

Due to variability between x-ray generators,
optimal techniques may vary somewhat from the values printed above.

Appendix A: Digital Radiography Technique Charts *(continued)*

Small Animal

MinXray 80/15 SID ~ 26IN (66CM)

Centimeters	1-10	11-15	16-25	26-30
kVp	80	80	80	**80**
seconds	0.06	0.13	0.26	0.50
mAs	~1	~2	~4	~7.5

MinXray 90/20 SID ~ 26IN (66CM)

Centimeters	1-10	11-15	16-25	26-30
kVp	80	90	90	**90**
seconds	0.06	0.06	0.10	0.20
mAs	~1	~1	~2	~4

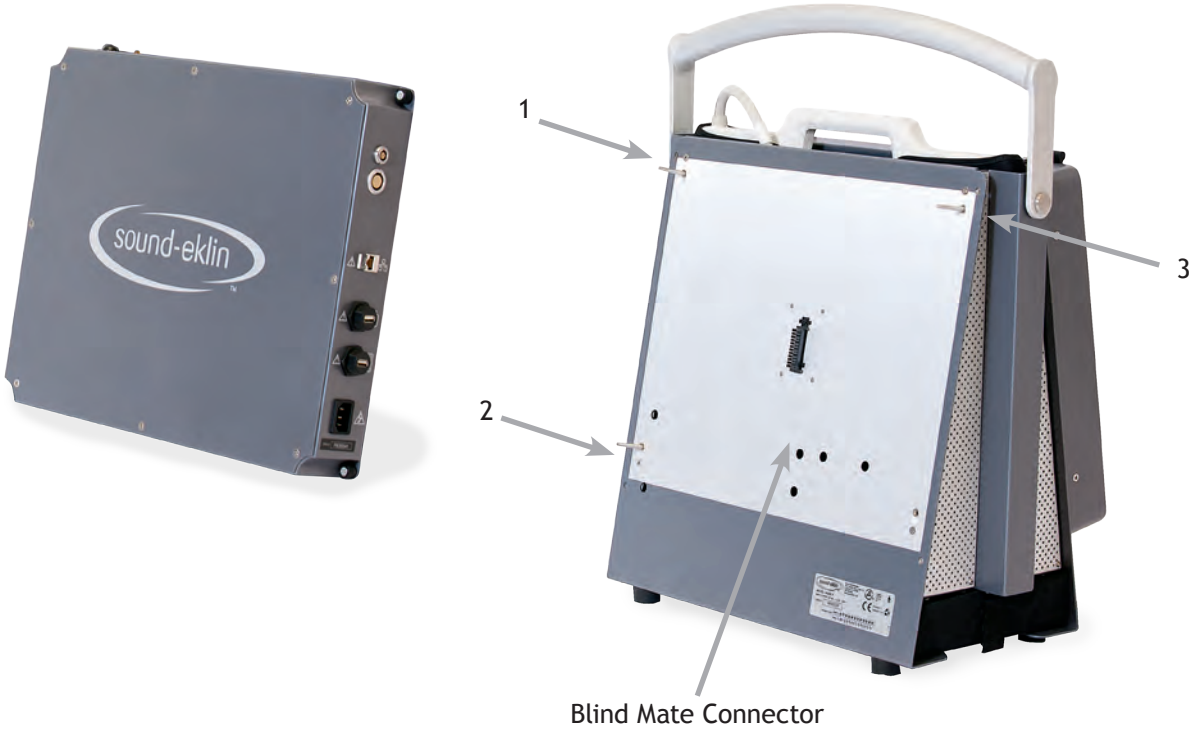
MinXray 100/30 SID ~ 26IN (66CM)

Centimeters	1-10	11-15	16-25	26-30
kVp	80	90	100	**100**
seconds	0.06	0.06	0.06	0.10
mAs	~1	~1	~1	~2

Due to variability between x-ray generators,
optimal techniques may vary somewhat from the values printed above.

Appendix B: Mark®1210c System Field Replacement Guide

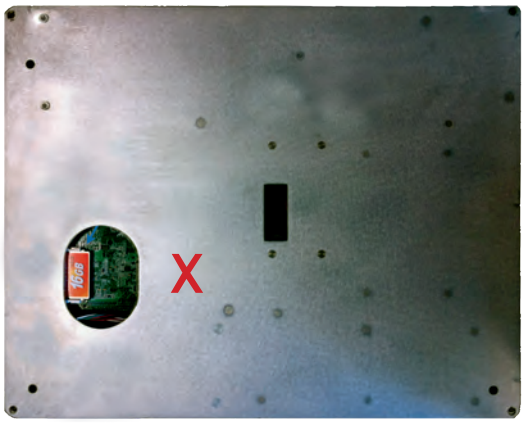
1. Using a Phillips screwdriver remove four (4) screws.
2. Box will remain on because of 3 Guide Pins. Gently slide electronics box off Guide pins, By pulling back. There are no wires to disconnect.



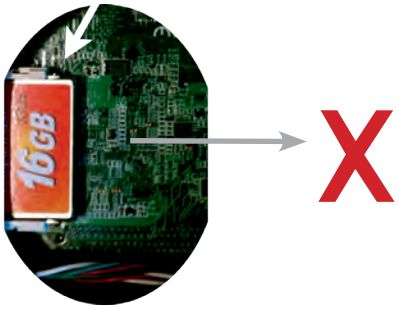
Appendix B: Mark®1210c System Field Replacement Guide
(continued)

3. Flip electronics box over and pull out 16GB Compact Flash Card. The compact flash card will have the most recent Database file on it with all settings required to restore.

You will need to place the old Compact Flash into the new electronics box replacement.

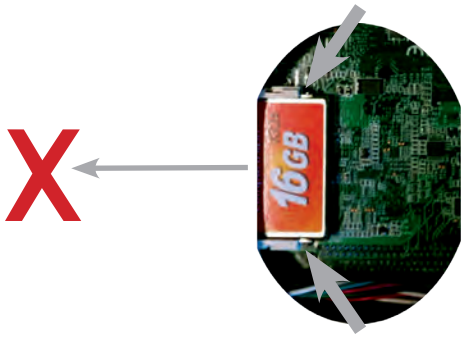


To Slide out old 16GB CF via the cut out: Gently pull left or right tab with thumb while pulling card back towards “X”.



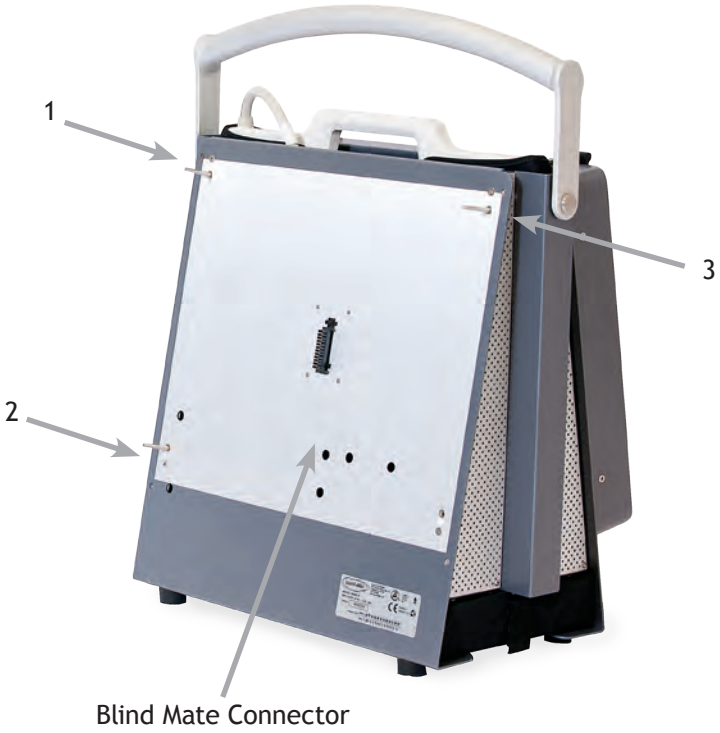
4. You will need to place the old Compact Flash into the new electronics box replacement.

   To Slide in new 16GB CF via the cut out: Gently align card up with rails and push card forwards towards “X”.

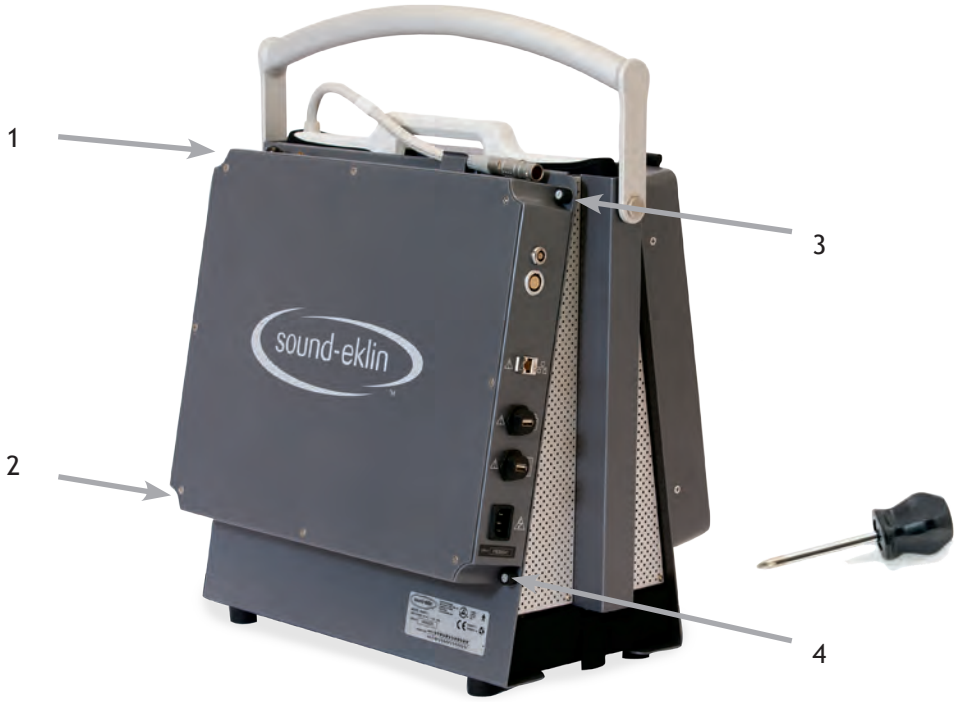


Appendix B: Mark®1210c System Field Replacement Guide
(continued)

5. After replacing CF card into new Electronics Box slide on using guide pins. The guide pins will line up the blind mate connector for you.



6. Using a Phillips screwdriver to tighten four (4) screws.



Appendix B: Mark®1210c System Field Replacement Guide
(continued)

7. Obtain Internet Connection, Power On, then call Technical Support at 1.800.819.5538 to restore settings. Restore procedure will take roughly 20 minutes.

Appendix C: Calibration Procedure

1. Launch the TruDR application as Administrator (username: admin password: admin)
2. Select the **Actions** button located in the menu bar at the top of the screen
3. Select the **Manage** button located at the top of the dropdown that appears after selecting *Actions*
4. Select **Equipment** from the menu on the left side of the screen
5. The **Equipment Configuration** screen will appear in the window on the right. At the bottom of the window select the **Perform Calibration** button
6. The *Calibration* screen will load on top of the TruDR application. To begin the calibration, select the **Perform Gain** button. Once you have done this, the application will begin to acquire a series of 4 **Dark** images 30 seconds apart and average them to create the **Offset** image. After each image is acquired, the Progress text box will read: **Please Wait**
7. Next, you will be prompted to take a shot to check technique. The target value for the gain calibration is ~8000 ADU.

   A good starting technique at ~40" SID: 64 kVp .08 sec

8. If the setting is correct the **Calibration Progress** box will display the **Average Exposure Count** and allow you to continue the calibration. If the settings are not correct, the **Calibration Progress** box will tell you if the settings are too high or too low, reset, and then prompt you to adjust your settings and take another image.

   Although the application will allow you to calibrate at +/- 20% any Average Exposure Count above 8500 or below 7500 should be canceled and done again.

9. If your settings were correct, you will be prompted to acquire a series of 4 images 30 seconds apart.
10. Once all 4 gain calibration images have been created, you will be prompted to acquire a **Flat Field** image. Acquire this image at the same technique as your calibration images.
11. Once the **Flat Field** image has been acquired, the gain calibration is complete. Now you need to update the **Bad Pixel Map** in the DaVinci application.
12. Click the "**Start**" button in the lower left hand corner of the screen and launch the "DaVinci" application. This is where the Defective Pixel Map is created.
13. Select the "Bad Pixels Removal" tab located at the top right corner of the application window.
14. Click the "Generate Auto BPM" button
    (This step can only be completed AFTER the calibration is complete. The DaVinci application uses the gain and offset images generated during the calibration procedure to generate the Defective Pixel Map.)

Appendix D: Technical Support

Shipping Address

Sound-Eklin®

6359 Paseo Del Lago

Carlsbad . California 92011

USA

Technical Support

Office hours: Weekdays 8:00 A.M. — 5:00 P.M. Pacific Time

Emergency 24-hour support is available.

Telephone: 800-268-5354 option 3

Website

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